

















THE  
JOURNAL OF HORTICULTURE,  
COTTAGE GARDENER,  
AND  
COUNTRY GENTLEMAN.

A CHRONICLE OF THE HOMESTEAD, POULTRY-YARD, APIARY, & DOVECOTE.

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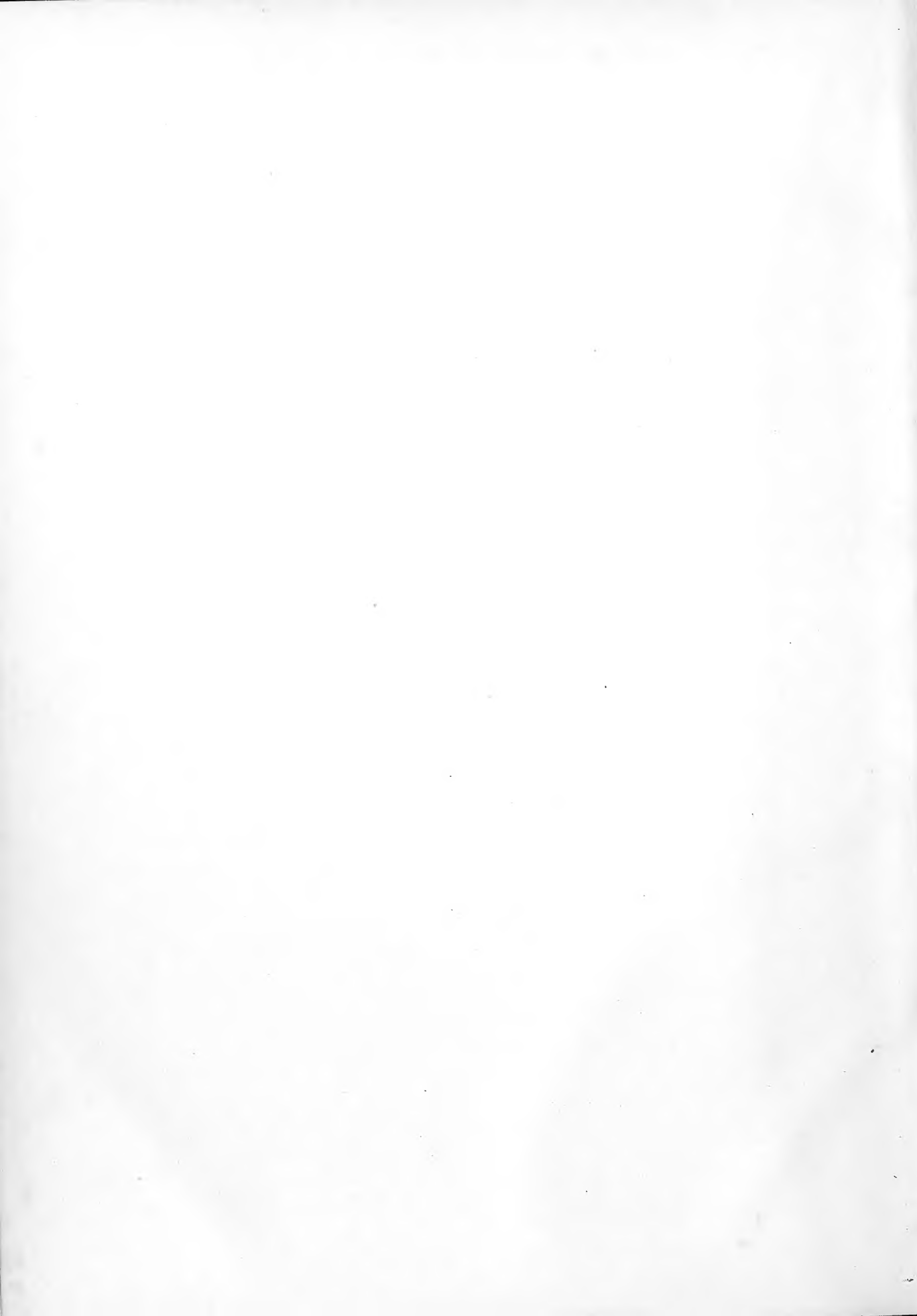


“In wishing ‘my friends and benefactors’ the compliments of the season, I cannot exclude from amongst that class the Editors of the *Journal of Horticulture*, a paper that is inexpressibly dear to me, for from it I have derived profit and pleasure. Therefore permit me to tender to you my mite of thanks for the year that is about to pass away; and heartily do I hope, that in the new year which is about to open, your Journal may be appreciated still more and more by the horticultural world. Wishing happiness, long life, and prosperity to the *Journal of Horticulture* and its Editors, I am—A YOUNG GARDENER.”

Such is one of the many greetings we have received; and as they have secured the aid that will render the Journal as useful and as trustworthy as in past years, the same hope as is expressed by “A YOUNG GARDENER” is entertained confidently by

THE OLD EDITORS.

Dec. 30th.





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## WEEKLY CALENDAR.

		JULY 6—12, 1876.	Average Temperature near London.		Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
Day of Month.	Day of Week.		Day.	Night. Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
6	TH	Nottingham, Newark, and Frome Shows.	76.0	50.8 63.4	3 53	8 16	3 59	2 49	6	4 30	187
7	F	Alexandra Palace Rose Show. Sandown Park Show.	73.7	50.8 62.2	3 54	8 15	9 27	3 55	16	4 40	188
8	S	Royal Botanic Society at 3.45.	74.0	50.0 62.0	3 55	8 14	9 46	5 8	17	4 49	189
9	SUN	4 SUNDAY AFTER TRINITY.	74.1	49.4 61.3	3 56	8 13	10 2	6 28	18	4 58	190
10	M		74.7	50.3 62.5	3 57	8 12	10 14	7 37	19	5 6	191
11	TU	Ealing, Acton, and Hanwell Show.	74.5	50.7 63.0	3 58	8 11	10 24	8 51	20	5 14	192
12	W	Enfield and Wimbledon Shows.	76.6	50.5 63.2	3 59	8 11	10 34	10 5	21	5 22	193

From observations taken near London during forty-three years, the average day temperature of the week is 74.8°; and its night temperature 50.3.

## PELARGONIUMS FOR CONSERVATORY DECORATION ALL THE YEAR ROUND.



THE perfection to which the Pelargonium of the common Tom Thumb type has now been brought renders this class of plants very suitable for indoor decoration. At the present time there are some signs of the old hardy sweet-scented flowers being substituted for the Geranium in many flower beds, and with the decadency of Geraniums for this purpose there is every appearance of their being used for conservatory decoration to a much greater extent than hitherto. Plants are not very plentiful which are capable of extending their flowering period over three or four months at the most, and it is pretty well known to those who are expected to have the conservatory replete with flowers every day of the year that it is often a difficult matter to keep up a gay appearance. With a quantity of selected and properly-managed Pelargoniums, however, every conservatory may be easily made a place of great beauty, not only at the change of the season, but throughout every day of the year.

Those introducing these Pelargoniums for the first time generally begin with young plants in 3-inch pots. This is the first size they are put into after they are rooted, and strong young plants produce fine trusses of bloom in this size for a time. As soon as the plants look as if they wanted more space at the roots to develop themselves they should be shifted into 6-inch pots. When placed in the 3-inch pots about the beginning of March they generally require to be shifted into the latter size about the latter end of May. The soil now, as at the first potting and all other times, should consist of somewhat open loam and a little thorough-decayed horse or cow dung. A small quantity of drainage carefully placed at the bottom of each pot is very necessary. As there is plenty of space to place a good quantity of fresh soil around a ball which is shifted out of a 3-inch pot into a 6-inch one without reducing the ball it should be transferred into the larger size whole. While potting, in every case, the soil should be pressed very firmly. When this is not done the plants must be watered two or three times a-day in hot weather. Some weeks after being placed in the 6-inch pots most of the plants will have made sufficient wood to afford a few cuttings. These should be taken off the first, second, or not later than the third, week of July. Each cutting should be made in the ordinary way and placed singly in small thumb-pots amongst a mixture of loam, leaf soil, and sand. Until they have formed a quantity of roots they must be kept in a cool rather moist place in a somewhat confined atmosphere. At this time of year they root quickly, and as soon as they begin to grow they should be potted into 3-inch pots and set in an open frame, or in the open air altogether if a frame is not available. From the time they begin to grow in the 3-inch pots until the middle of September they should be fully exposed to the sun, and never be

allowed to droop from want of water. Before that time many of the plants will show bloom, but every particle of this should be removed as it appears. In September each plant should be potted into a 6-inch pot. After this they should be grown in a frame where they can be protected from cold and wet, and all the flowers which are produced should be left on the plants after this time. In November this batch of plants will supply abundance of flowers, and continue to do so throughout the whole winter months. Plants treated in this way bloom as freely in the winter as spring-rooted plants do in summer.

The plants in 6-inch pots which supplied these cuttings in July will be benefited by being cut-in or pinched again in August. Another batch of cuttings should be put in then, but instead of placing them in thumb-pots this time they should at once be put into 3-inch pots. In this size they should remain through the winter until March, or whatever time it is convenient to shift them into larger pots. As soon as the cuttings are taken off in August the plants from which they have been taken should be shifted out of the 6-inch into 8-inch or 9-inch pots. With this addition to their root room they again start vigorously into fresh growth and flower freely all winter. In spring the July-struck cuttings should be potted out of their 6-inch pots into others two or three sizes larger, when they will continue blooming throughout the summer. Those in the larger-sized pots may be cut down in spring and formed into cuttings. The plants are not of such a useful size when they become large in a 9-inch pot; besides, small, healthy, well-grown plants under a year old always produce finer blooms than plants on the decline. It will thus be understood that to have Pelargoniums in perfection all the year round there should always be one batch of plants following on the heels of another; and it is a great point to have at least one lot of plants always in their prime, and this is easily enough obtained by propagating frequently, as above advised, and never allowing the plants to become stunted in their pots before transferring them to larger pots.

Throughout the whole of their existence potting and watering are the chief of their wants. At no period of their growth do they require to be syringed, sponged, fumigated, or have any of those endless operations performed on them which are so necessary to the well-being of fancy Pelargoniums, herbaceous Calceolarias, Cinerarias, and many other plants which might be named that only bloom for a brief space and are destroyed.

An ordinary Pelargonium cutting will often bloom if allowed before it is well rooted, and I have seen them when potted-on continue to do so for twelve months afterwards without intermission. Certain varieties may be considered to have much to do with the time and duration of their blooming, but this need not be regarded as a matter of great importance. I have no experience of any other but the Chilwell strain, and I have no particular desire to become acquainted with any other, as many of them include all that is required in a Pelargonium: colour, size, form are there. To be brief, I will not go further back than those which were sent out for the first

time last year, although there are many older than that worth mentioning. Scarlet: John Gibbons, very bright and large trusses, single blooms often measure more than 2 inches across; Rev. F. Atkinson is the finest scarlet of last year's introduction; it is superb in every way, and it has a good companion in this season's lot in David Thomson. With us there is little difference between the flowers, but the leaves of the latter are perfectly green, while those of the former are deeply zoned. Pink: Lady Byron, very fine indeed; Lucy Bosworth; Lady Sheffield, best of all this class; Mrs. Rogers, Sybil Holden, scarlet and crimson, with white eye; Mrs. Whiteley, Earl Manvers, Dora Charlton, A. Henderson (very dark crimson), Charles Smith, E. Davies, Sir H. S. Stanhope, scarlets, in the way of Corsair and Vesuvius, but much better; Wordsworth, Havelock, Lord Zetland. Other beautiful varieties: Mrs. Mellish, rose; Mrs. Leacroft, red, fine white eye; Ellen and Mrs. Jacoby, salmon; Frederick William, rosy plum colour, extra fine; Mrs. Lancaster, clear bright pink; Louisa Smith, vivid crimson; John Fellows, cerise; Mary Pearson, rose; Mrs. Mellish and Evelyn Mellish, light rose. Many more good varieties might be named, but these are very select. All those which are fine and free summer bloomers are generally the same in the winter time.—J. MUIR.

### FRUIT APPEARANCES AND PROSPECTS.

DURING the early part of May, with frost every night, the chance of a crop of fruit of any kind looked a very poor one indeed. Matters have considerably improved since then, and we may now fairly expect to retain such fruit as we have. Pears are almost a total failure, and Apples are partially so. Late-flowering kinds are generally supposed to be the least liable to injury from frost, but they have not escaped this season so well as the early-flowering kinds. Irish Peach and Oslin, which were flowering in the middle of April, have a good crop on them; while Margaret, and others which did not flower till a month later when the frost was more severe, have next to no fruit. Some trees of various sorts shaded on the east side by timber trees from the early sun have also a good crop.

Plums on the west walls are abundant, especially Early Favourite, Cooper's Large, Mirabelle, Purple Gage, and Green Gage; those on the east side have only a thin crop. There was abundance of bloom everywhere, which appeared to set, but only a very small portion of fruit swelled off. Standards do not pay for growing here, as, owing to the soil and climate being rather ungenial, they get covered with insects, and there is no chance to wage war against them as there is with trees on a wall. Many of the wall trees, especially Golden Drop Plums, have much bare wood. I am in the habit of nailing-in some young wood every season to take the place of that which is weak or disfigured; it sometimes bears a few Plums the year after laying-in, and always forms quantities of spurs for fruiting in future seasons. Last year, owing, I suppose, to the unfavourable weather, many of these spurs formed only fruit buds—no wood buds at all, and now the frost has taken the fruit the branches are bare. Cooper's Large, or La Delicieuse, is a valuable Plum, it always bears, and is good for all purposes; it is better than Washington in all respects but appearance. Washington with me is a shy bearer—a very handsome fruit, but only second-rate in quality.

My fan-trained Peach trees are similar to a lady's fan when it has had too much wear and shows rather more framework than is desirable, but still there is some fruit on them and no blister. They had a wooden coping over them a foot wide, and were covered every night with frigi domo from the 9th of March to the beginning of June. Another wall with the trees trained cordon fashion has an abundant crop of fruit; this, however, had the benefit of being sheltered from the sharpest frosts in winter, as I did not consider the wood sufficiently ripe to bear much frost. None of the trees covered at night with frigi domo have a blistered leaf on them, and this includes some maiden trees planted in November. Other maiden trees of the same batch, and treated exactly similar, excepting that they had no frigi domo over them, though they had the same sort of coping-boards, are now quite worthless, every one of them being blistered, deformed, and stunted, and some actually dead. To succeed with Peach trees at all I find I must cover them from their infancy whether they have fruit on them or not. Herring nets, tiffany, and such-like slight covering have been tried and found wanting; they will not keep out 8° or 10° of frost on two successive nights if the intervening day happens also to have a low temperature, and on

two or three occasions this spring the mercury did not rise above 35° any time during the day. A covering like a blanket is needed to keep out such weather.

Although I have such abundance of fruit on my cordon trees, and the plan proves much more profitable here than fan-training, I do not mean to train any more this way, as many of the trees are gumming badly, and plainly show they do not like so much restriction. I think the best plan will be one which is more natural than any of the systems in ordinary use—viz., to plant maiden trees upright, and fasten the laterals on each side to form main branches, making a tree something of the shape of a horizontal-trained Pear, excepting that the branches instead of being horizontal should have an incline of 30° or 35°, and the bearing wood instead of being spurred should be laid-in on each side of the main branches.

There is little or no winter pruning necessary to carry out this plan. A novice can see easier what there is to do to a tree than he can with a fan-trained tree (unless that fan-trained tree would keep as perfect as it does on paper, which somehow or other it never does), and when the sap all flows through one main to branches having all the same elevation instead of five or seven mains at different angles, to supply branches varying in elevation from 0° to 90°, there is a greater chance of having a continuous unchecked flow. There is no need to cut maiden trees down, as is usually done if the wood is ripe, and the laterals generally thought useless as good as any to train-in for a permanency. Those not required should be kept pinched-back till midsummer, and then be removed with the knife, but most of them can with advantage be left on and kept pinched-back to shade the stems.

Light-coloured walls are far preferable to those of a dark colour, the changes of temperature being less violent.

Cherries on walls, including Morellos, are a fair crop. There are none on standards and bushes. Currants are a partial crop and will not be fine. Gooseberries, Strawberries, and Raspberries are very abundant.

We have had a long period of dry weather, and although our heavy soil is quite moist enough 6 inches below the surface, the surface itself had become dry and was cracking. I therefore thought it advisable to slightly mulch all fruit trees and some of the vegetables.—WILLIAM TAYLOR.

### AURICULAS.

I SHOULD find it difficult to say how much my old love for Auriculas has been stimulated and refreshed by the pleasant articles which have appeared from time to time in your pages from the pens of the Rev. F. D. Horner and Mr. Douglas, and I daresay I am not alone in my feelings of gratitude to them for their hints and for the amusement they have afforded to our leisure moments. Notes on Auriculas would seem almost out of place from this damp climate. A moist atmosphere is a characteristic of Wales. The rainfall is large; the amount of cloud and driving rain from the neighbouring Atlantic make it appear even larger than the tell-tale pluviometer will gauge. My garden is in a valley surrounded with trees, and the Rhododendrons thrive to such an extent that we are forced to cut them down in places with a ruthless hand to prevent their overgrowing our paths and smothering one another. Everything is indicative of damp, the enemy of the Auricula, yet "where there's a will there's a way;" and even here with care and attention I have had some blooms which have charmed me and my neighbours, while also some peculiarities have occurred which perhaps other growers may have similarly noticed.

All my plants of Alderman Wisbey, Dickson's Duke of Wellington, Campbell's Robert Burns, Summerscale's Catharina, Smith's Ann Smith, and Mrs. Smith, besides other sorts of which I had but a single representative, never bloomed at all; the plants seemed to be perfectly healthy and vigorous, but they never showed symptoms of forming a truss. Of all my sorts which did bloom none was better than Heap's Smiling Beauty. I had three plants, all of which came out perfectly, and I gather from the prize lists at Manchester that other growers found this fine variety to be in form this year. I had a Col. Champneys in grand condition with nine large pips, which everyone at first sight selected as a gem. Vivid, gay, and dashing it certainly was, but place Smiling Beauty alongside, and the effect was as though you brought a gas jet to bear upon a farthing rushlight, so necessary is the golden throat to light up a first-rate Auricula.

My green edges have been very disappointing. One plant

of Ashton's Prince of Wales came out well with a beautifully pure and vivid green edge, but the other plants were crumpled. Franklin's Colonel is a favourite of mine, very pure and very lasting in the bloom. Oliver's Lovely Ann and Trail's General Niel seem fair and easily increased sorts, but Oliver's Lady Ann Wilbraham was too heavy in the body colour.

The grey edges have done better. Lancashire Hero (one of my plants is green-edged), Lightbody's Inkerman, Cunningham's John Waterston, McLean's Unique, Lightbody's Richard Heady, Fletcher's Ne Plus Ultra, and Turner's Ensign, which last was very fine, only the petals were slightly recurved, opening beyond the flat.

Among the whites after Smiling Beauty came Taylor's Glory, Lee's Earl Grosvenor, Gairns' Model, and Clegg's Crucifix, a very bold large flower.

In the self-edged class I like Lord Lorne as much as any. What a flower C. J. Perry would be with only a brighter eye! Topsy, Pizarro, Blackbird, and Mrs. Sturrock came well.

Slugs have proved formidable enemies. They abound in this damp country, and they will march long distances in the night and go direct to the heart of the best sorts. The larva of *Phlogophora meticulosa* (Angleshades Moth) and *Plusia gamma* (Gamma Moth) have robbed me of Smith's Lycurgus and Sykes' Complete; and some Tortrix, which I am rearing to determine the species, has been at work. I have not lost my plants, but the larva succeeded in each case in taking sufficient from the heart to destroy the chance of bloom for the year before I discovered its presence.

Would the Rev. F. D. Horner or other successful raiser of seedlings tell me how they manage their seeding? Is the selection of the pollen parent left to chance or insect agency? or is the pollen taken from one to the other by means of a camel's-hair brush, so that by selection of parentage the failings of an Auricula may be corrected in its offspring? I have tried this plan this year; but I fear that my isolation of the mother plant has been incomplete, and that without a bell-glass to each plant the mere fertilisation of the mother bloom with selected pollen may be insufficient.—J. T. D. L.

## IN AND ABOUT THE TORQUAY LANES.—No. 3.

No weather could be more suitable for enjoying these shaded lanes than that which is now about 90° in the shade, and of those lanes none are more shaded or more beautiful than those around Berry Pomeroy Castle, where I was the day before I am writing this.

Beneath the trees there—evidence of a late season—were still in bloom a few Wood Anemones, and poignantly did they recall to memory the day of boyhood of fifty years since, when I first found that flower in the Langford woods of Essex, and had a word-combat as to the origin of its name. We had no dispute as to Anemone being derived from the Greek for the wind, *anemos*, but we could not agree as to the why a flower which seeks for shade and shelter in woods should be called "The Wind Flower." I believe it was because its pappused seeds are borne "over the hills and far away," even by the slightest wind. My companion, an old parson, who cherished both the Anemone and Ranunculus in his vicarage garden, advocated the growth of the dark-coloured varieties, and I read in the century-old book of the Dutch florist I quoted in my last, "the best sorts to gather seeds from are the deep violets, and such as are all red."

This has but slight reference to the Beech woods of Berry Pomeroy, but it was near a noble specimen of those Beeches that I saw the Anemone *memorosa*. That noble Beech is known there as "The Wishing-Tree," and the well-trampled surface around it testifies that very many pilgrims have thrice passed round it to win what they desire. A noble tree it is, some 150 feet high, with a trunk nearly 20 feet in circumference, and branches covering a circle 100 feet in diameter. It is one of very many I have stood beneath, each associated with some bright aspect of our nature, and testifying that "it is a happy world after all." The Baobab in India, sacred to the most influential of Hindoo deities, and only another name for God; the Gospel Oaks of England; the Mother Vines of Italy; the cleft Ash trees through which to pass the diseased and the crippled; and the Yew trees of many graveyards, but one of the finest here has been taken away, that of Waldon Hill Wood.

I sit within the ruins of Pomeroy Castle, and am saddened that it is one of the numerous possessions of the wealthy of our land that is not rendered residential. No places within

those possessions are so worthy of being tenanted as those which have a history. Berry Pomeroy Castle is one of these, and one of the Seymour family with a judgment and taste deserving commemoration commenced erecting a mansion worthy of his dukedom, but his successors unworthily have allowed it to be swept away. The Castle was built by a Pomerai in the reign of the first William, and remained possessed by his descendants for five centuries, and then was forfeited to the Protector Somerset, in the possession of whose descendants it yet remains.

There and around here I have heard words quite new to me, and which may be jotted down in a cluster. *Lippen*, a bee hive; *cockhedge*, a Hawthorn hedge; *cowstop*, the Foxglove; *cuckoe*, the Harebell; *fast*, the subsoil; *hoop*, a bullfinch; *skeer*, to brush over with a scythe; *tang* and *untang*, to tie and untie; and *wood-quist*, a wood pigeon, the cooing of which I heard on my way to the neighbouring fine half-ruin Compton Castle, to which tradition tells there is a subterranean passage. Compton is a castellated mansion, and I call it a half-ruin because its centre has been rendered habitable, and has a farmer for tenant. Its garden, stone-walled and occupying three-fourths of an acre, is stocked with huge old Gooseberry trees; the walls are covered with Apple and Pear trees, all very old yet fruitful, and I regretted that the fruit was too young for identification, and in the borders were rows of Raspberries and Wood Strawberries improved by culture, but still exhibiting their close relationship to the wild specimens which abound on the hedgebanks all around here. The climate so well suits the wild Strawberries that they may be found flowering in almost every month. The Apple trees are so gnarled and look as old as if they were on the walls when the cannons of the Cromwellians played against the mansion.

Returning to Torquay I halted at the Exhibition of the Torbay Horticultural Society in Belgrave Park, on a site commanding a marine view unsurpassable. I must restrict my notes to the Roses at the Show. The prizes were awarded as follows:—

First prize a silver cup (open), for the largest and best collection of cut Roses, not less than seventy-two distinct varieties.—Curtis, Sandford, & Co. Nurserymen only.—Forty-eight distinct varieties.—Cup, Curtis, Sandford, and Co. Amateurs.—Forty-eight distinct varieties, one truss of each.—Cup, Mr. Beachey; 2, Rev. J. P. Tomlinson; 3, Mr. Robson. Twenty-four varieties, single trusses.—1, Mr. Beachey; 2, Rev. J. P. Tomlinson; 3, Mr. Robson. Twelve varieties, three trusses.—1, Mr. Beachey; 2, Rev. J. P. Tomlinson; 3, Mr. Robson. Twelve distinct varieties, single trusses.—1, Mr. Beachey; 2, Mr. W. Froude; 3, Mr. Spencer-Mead. Twelve best new Roses of 1874 and 1875, distinct, single trusses (open).—Curtis, Sandford, & Co. Six blooms of any Rose of 1875 or 1876.—Curtis, Sandford, & Co. Twelve single trusses of any fine Rose.—1, Curtis, Sandford, & Co.; 2, Mr. Beachey. Large bouquet of Roses.—2, Mrs. Hogg. Hand bouquet of Roses.—2, Curtis, Sandford, & Co. Amateurs.—For vase or epergne of Roses, with foliage only.—1, Mrs. Hogg; 2, Mr. Beachey. Ladies only.—Ornamental basket of Roses, with Rose foliage only.—Mrs. Hogg. Stand of yellow Roses, twelve blooms (open).—Mrs. Hogg. Stand of Tea Roses, twelve blooms.—Curtis, Sandford, and Co.

The seventy-two trebles, for which the first prize was awarded to Messrs. Curtis, Sandford, & Co., comprised the following varieties:—

*Hybrid Perpetuals*: Alfred Colomb, Annie Wood, Antoine Ducher, Antoine Mouton, Alexander Dickson, Arthur Oger, Bessie Johnson, Bernard Verlot, Boule de Neige, Camille Bernardin, Capitaine Christy, Centifolia Rosee, Charles Lefebvre, Col. de Rougemont, Comtesse de Chabriland, Countess of Oxford, Docteur Andry, Duc de Rohan, Duke of Wellington, Duke of Edinburgh, Duchess of Edinburgh, Dupuy-Jamain, Edward Morren, Empereur de Maroc, Etienne Levet, Eugene Appert, Exposition de Brie, Francois Michelon, General Jacqueminot, General Von Moltke, Hippolyte Jamain, John Hopper, Jules Margottin, La France, L'Esperance, Lelia, Louisa Wood, Madame Emma Combey, Madame Chas. Wood, Madame Hippolyte Jamain, Madame Lecharme, Madame Marie Finger, Madame Rothschild, Madame Victor Verdier, Mlle. Eugénie Verdier, Mlle. Marie Rady, Marie Baumann, Marguerite de St. Amand, Marquise de Castellane, Mary Turner, Mons. Etienne Dupuy, Mons. Noman, Pierre Notting, President Thiers, Prince Camille de Rohan, Princess Beatrice, Princess Louise, Richard Wallace, Rosa Bonheur, Sophie Coquerelle, Star of Waltham, Victor Verdier, Xavier Olibo. *Teas*: Cheshunt Hybrid, Comtesse de Nadailac, Devoniensis, Gloire de Dijon, Madame Maurin, Marechal Neil, Marie Guillot. *Bourbon*: Souvenir de la Malmaison. *Perpetual Moss*: Souper et Notting.

I was informed that this Show was the largest and most successful the Society has held, and I can testify that no better specimens of some of the varieties of the Rose could be found in England. Cheshunt Hybrid, Francois Michelon, and Marechal Niel were superlative.—G.

## PEACH BLISTER.

Your correspondent Mr. Luckhurst says in your last volume, page 481, that Peach blister is "caused by the exposure of the expanding foliage [of the Peach] to the influence of frost or cold cutting winds," and as a decisive proof of this being

the cause he instances as follows:—Certain leaves exposed to the east wind suffered from blister, whilst other leaves not so exposed did not suffer. Mr. Luckhurst then goes on to say, "It has also been asserted that blister is caused by a fungus (*Ascomyces deformans*). This is undoubtedly a mistake; the fungus forms upon the affected part simply because it is a favourable medium for its development."

As to the decisive proof of the cold cutting winds causing the blister, does Mr. Luckhurst not know that Peach blister often occurs with great virulence inside the most carefully protected orchard houses? Does the cold east wind sweep unchecked through these structures? When Mr. Luckhurst says the fact of *Ascomyces* causing blister is undoubtedly a mistake, one is tempted to ask, Who says it is undoubtedly a mistake? Mr. Berkeley, who has made vegetable pathology a study for fifty years, says of *Ascomyces deformans* ("Outlines," page 376) that it causes one form of blister, and everyone who knows the genus *Ascomyces* and is acquainted with the habits of the different species and how they distort foliage and fruit, will agree with Mr. Berkeley.

No doubt the east wind will shrivel and wither all sorts of leaves and prepare them for the attacks of all sorts of fungi; but this is quite beside the question. A man may expose himself to the east wind and then die of bronchitis, consumption, inflammation of the lungs, or other diseases, but no one but a quack would say that man died of the wind. A child may sit by a drain and speedily die of diphtheria or typhoid fever, but although the drain may have predisposed the child to the attack, he dies of diphtheria or fever, not of drain. The truth of these statements is proved by the fact of diphtheria, fever, and bronchitis infecting healthy subjects who have not been exposed to winds and drains. It is known to be the same with Peach blister and a large number of other fungoid diseases of plants.

Mr. Luckhurst says, "Can anyone who asserts that fungus is the cause of blister give us any facts in support of a theory which strikes me as being mischievous and calculated to mislead?" As I, in common with many other observers, believe one form of Peach blister to be caused by *Ascomyces deformans* (a form quite distinct from that of tender leaves shrivelled by the east wind), I venture to submit the above facts for Mr. Luckhurst's consideration, trusting they may not prove mischievous and calculated to mislead.—W. G. SMITH.

[Blistered Peach leaves with *Ascomyces deformans* were figured by Mr. W. G. Smith on page 31, vol. xxix.]

### HERCULES AT HOME.

"I AM in lovely bloom; do come over and see my Roses, but it must be either early in the morning or late at night. I stage for Maidstone at 4.30 A.M. (Tuesday)." Such was the message I received from Mr. Baker, and busy though I was I could not refuse the invitation, so I went by the last train to Exeter with the intention of helping him to stage for Maidstone. "If you are waking call me early; call me early, Mary dear," was my request to the Abigail at the lodgings; but, alas! I needed not to be called, for the fear of being too late kept me awake all night, and punctually at 4.30 I turned up at Heavitree. There I found Hercules on the look-out for his gardener, and much astonished to find me instead. However, the old man soon appeared, and then we set to work.

But what a sight met my eyes! I cannot better describe it than by saying you looked over a sea of bloom. There were four thousand Rose trees in full bloom, spread over a space which certainly did not exceed a quarter of an acre, and in my opinion was much less. Every good Rose in cultivation with one exception was in full bloom. That one was, strange to say, *La France*, which with me is always one of the earliest to bloom.

Under the shade of gigantic Elms the boxes were placed, and the tubes filled with spring water, and then we began to cut for the cup, which before these lines see the light will be on the Heavitree sideboard. What a treat it was to stage that stand of thirty-six. The difficulty here was not where to find a grand bloom of a variety, but which to take and which to leave of blooms that would grace any stand. We commenced with *Marquise de Castellane*, and I do not hesitate to say that if we had had to stage twenty-four blooms of that variety we could have done it, and yet left numbers of perfect blooms. I can, although I took no list, tell you all about the best Roses at Maidstone: *Xavier Olibo*, *Annie Laxton*, *Centifolia Rosea*, *Marguerite de St. Amand*, *Ferdinand de Lesseps*,

*Duke of Edinburgh* and his Duchess, *Mdlle. Eugénie Verdier*, *Countess of Oxford*, *Marie Baumann*, all in the finest possible form, and many others too; in fact, when the boxes were closed I only saw two blooms which could in any way be considered weak.

It was a treat also to see the wonderful knowledge displayed by Hercules as to the endurance of the various blooms. *Edward Morren* and blooms of the kind were cut more than half expanded, while *Xavier Olibo* and others of those rapid openers were cut quite in the bud. By seven o'clock all was completed, and the boxes carried off to the cellar, there to wait till the night mail conveyed them in the cool to Maidstone. A box of spare blooms was cut at night. I now predict that the cup value £10 will be awarded to R. N. J. Baker, Esq., Heavitree, Exeter.—JOHN B. M. CAMY.

### RHEXIA VIRGINICA.

OUR figure represents a small family of plants said to be indigenous to the vast continent of North America. Though a small family there is something very interesting about them to the lover of choice, hardy, herbaceous plants. *Rhexia*



Fig. 1.—*Rhexia virginica*.

*virginica* was introduced to our gardens as far back as 1759; the plants of this species require care and skill to cultivate them successfully. *Rhexias* are but little known and less cultivated, and are seldom met with. There are only four or five kinds enumerated in some of the best works we have, but they are a race of plants of great beauty and ought not to remain longer in the background.

Their requirements can be met by imitating their native habitats—sandy bogs. If they are accommodated with sandy peat and moisture success may be expected. They make fine plants on the moist rockery, and they will also succeed with care in a cool peat border, but they must be supplied with water when required. It requires time to get them established, and except for increase the plants should not be disturbed. They are increased by division when growth has commenced in spring. I have not seen or heard of their being increased by seed. They are summer-blooming plants of great beauty, and ought to be much more cultivated than they are at the



present. When well grown and caught in condition they would prove telling plants for exhibition purposes in collections of hardy herbaceous plants.—N.

## RICHMOND HORTICULTURAL SOCIETY'S SHOW.

UNDER the auspices of a favourable day—neither too hot nor too cold—the second annual Exhibition of this Society was held in the Old Deer Park on the 29th ult. The Society, which embraces the district of Twickenham, Isleworth, East Sheen, Kew, Ham, and Petersham, is under the immediate patronage of H.R.H. the Duchess of Cambridge, H.R.H. the Duchess of Teck, H.R.H. the Duc d'Aumale, and H.R.H. the Duke of Teck, who is the President of the Society. It has an influential and practical Committee, and indefatigable officers in Lieut.-Col. F. Burdett, Treasurer, and Mr. Albert Chancellor, Hon. Secretary. Although the Society is young it is prosperous, and its Exhibitions may be numbered as of the best in the vicinity of London. The Deer Park is particularly suitable for a horticultural fête, the Beeches and Oaks being sufficiently large and numerous to afford shade to all visitors without interfering with the enjoyment of an agreeable promenade. Under these fine trees the tents were erected—one 140 feet by 50 feet for plants, and others of smaller dimensions for fruit and vegetables, table decorations and Roses, and cottagers' productions. Large as was the space under canvas it was not sufficient to accommodate without undue crowding the many competing collections, and consequently the arrangements were not so favourable for judging and for inspection as they otherwise would have been. It can never fail to add to the interest of a show if the collections in given classes are placed conveniently near to each other, and this, where space is sufficient and taste is exercised, is not antagonistic to artistic arrangement; but when a first-prize group is on one side of a tent, and the second-prize lot on the other, visitors simply become bewildered in fruitless searches for the different exhibits for purposes of comparison, and obstruction of the promenades is the inevitable consequence.

The Show in question was a crowded Show—crowded with excellent productions, and crowded with a select company of appreciative visitors. The centre of the large tent was devoted to specimen plants arranged on baize-covered stages, the sides being devoted to groups of plants arranged for effect on the grass. These groups were semicircular, each occupying about 100 square feet, and were placed at wide intervals apart, the interspaces being occupied by Ferns, Orchids, &c. The tent had thus a rich and pleasing effect. For the collections mentioned prizes of £5, £4, £3, and £2 were offered, and they were awarded to Mr. Kinghorn, Sheen Nursery, Richmond; Messrs. Jackson and Sons, Kingston-on-Thames; Mr. Bowell, gardener to Sir Henry Parker, Richmond; and F. Wigan, Esq., Clare Lawn, East Sheen, in the order named, an extra prize being awarded to Mr. Bates, gardener to W. H. Punchard, Esq., Poulett Lodge, Twickenham. The whole of these collections were composed of a judicious mixture of fine-foliage and flowering plants, their arrangement generally being of a free and informal character. Prizes of this nature cannot fail to give an impetus to the tasteful arrangements of plants, and we were glad to see the competition so good and the collections so meritorious. Mr. Kinghorn's group was edged with *Lycopodium*; and Messrs. Jackson had a charming fringe of *Agrostis nebulosa* raised from seed soon this spring.

**STOVE AND GREENHOUSE PLANTS.**—In the class for nine plants Messrs. Jackson & Sons had the first place with plants as fresh as if shown in May. Noticeable were *Kalosanthes coccinea* superba 4 feet in diameter, *Aphelexes*, and *Dracophyllum gracile* of still larger dimensions, *Allamanda grandifolia* exceedingly bright, a splendid *Erica obbata*, and a fine *Phenocoma*. These were not one-sided plants, but were as perfectly furnished as they were healthy and well bloomed. Mr. Child, gardener to Mrs. Torr, Garbrand Hall, was placed second for a good collection; Mr. Ellis, gardener to J. Galsworthy, Esq., Coombe Leigh, Kingston Hill, being third for plants still better, but not sufficiently distinct to entitle them to a higher position; they were, however, undeniably well grown. For six plants Mr. Atrill, gardener to C. J. Freake, Esq., Bank Grove, Ham, had the first place with an excellent collection of freely trained plants; Mr. Crafter, gardener to the Rev. W. Finch, Woodlands, Kingston Hill, being second for a somewhat irregular collection, yet containing some good specimens.

For nine fine-foliage plants Mr. Legg, gardener to S. Ralli, Esq., Cleveland House, Clapham Park, was first with the same fine plants which won him the premier place at the Royal Horticultural Society's Show at South Kensington. These plants bear the impress of superior culture, being in exuberant health, rich colour, and, for the size of their pots, they are very large. The *Crotons Weismannii*, variegatum, and *Johannis*, and *Allocasia macrorhiza* variegata (the finest plant, perhaps, ever exhibited), were in magnificent order; and the *Palms Geonoma pumila* and *Stenersonia grandifolia* exceedingly fine. Mr. Child had the second place with highly coloured *Crotons*, a very fine *Pandanus*

*Veitchii*, large *Maranta zebrina*, *Palms*, &c., a most creditable group; Mr. Kinghorn having the third place with *Palms*, *Phorinum tenax* variegatum, *Yucca aloifolia* variegata, *Ananassa sativa* variegata, &c. For six fine-foliage plants Mr. Bates, gardener to W. H. Punchard, Esq., was placed first, Mr. Atrill second, and Mr. Crafter third. Mr. Bowell, gardener to Sir H. Parker, and Mr. Morrell, gardener to J. S. Rutter, Esq., Cambridge Park, Twickenham, staged collections worthy of recognition. In this class, in which the competition was great, size counted far more than quality and effect; all, however, cannot have prizes if all stage good collections.

In the classes for *Pelargoniums* Mr. James, gardener to W. F. Watson, Esq., Redles, Isleworth, was a long way ahead with both show and fancy varieties. The plants were 2 to 2½ feet in diameter, not flat, but semi-globular, more effective than cart-wheel specimens, and in such modern varieties as *Sultan*, *Zephyr*, *Pompey*, *Superb*, and *Example*, all superior; his fancy varieties comprising *East Lynne*, *Mirella*, *Madame Sainton*, *Dolby*, *Lucy*, and *The Shah*. Mr. Wells, Selwyn Court Gardens, Richmond, was second with show, and Mr. Morrell with fancy varieties. In the class for zonals Mr. Crafter was first and Mr. Morrell second for healthy and well-bloomed plants; and for tricolors and bicolors Mr. Tipping, 9, Sheendale Villas, Richmond, had the premier prizes for well-coloured medium-sized specimens. *Caladiums* were remarkably fine, Mr. Morrell winning with robust well-coloured plants 3 to 4 feet in diameter; Mr. James being second with plants almost equally fine; and Mr. Peel, gardener to Lady John Chichester, Cambridge House, Twickenham, third, also for good examples of culture. The *Caladiums* were the finest plants that have this year been exhibited, and Mr. Morrell has now secured the first prize with them for fourteen years consecutively. *Begonias* were fairly well exhibited, the awards going to F. Wigan, Esq., Mr. Atrill, and Mr. Wells respectively for highly creditable collections. *Fuchsias* were well represented, the plants being healthy, well flowered, and not too closely trained. Mr. Crafter was placed first, Mr. James second, and Mr. Wagstaffe third. These collections made a very attractive display, and were greatly admired by visitors.

**FERNS.**—These were remarkably good and very numerous. For six plants, exotic, Mr. Smith, gardener to A. Cooper, Esq., Park Road, Twickenham, was first with *Davallia Mooreana* 5 feet in diameter, *Adiantum gracilimum* 2 feet through, very good; *A. farleyense*, *Gymnogramma ochracea*, and *G. peruviana* argyrophylla and *Lomaria gibba*. Mr. Atrill was second, and Mr. Morrell third, both of whom staged excellent collections. In the class for eight plants F. Wigan, Esq., was first with a very fine *Cyathea medullaris*, a *Dicksonia*, two *Alsophilas*, and four *Adiantums*. Had not these plants been good as well as large they would not have overweighed the second-prize group (Messrs. Rollisson's), which contained beautiful *Filix Ferns*, while many considered Mr. Child's third-prize collection quite equal to the others. It contained a *Cyathea* and *Dicksonia*, both very good, and a highly superior specimen of *Lomaria gibba*. James Wigan, Esq., exhibited an admirable collection of *Adiantums*. Hardy Ferns were rather small but very good, Mr. James being placed first, Mr. Crafter second, and Mr. Morrell third. *Athyrium Filix-femina plumosum* in Mr. James's collection was particularly elegant.

**ORCHIDS.**—These were not numerous, but some good if small plants were exhibited. The first place for eight plants was secured by Messrs. Rollisson & Sons, their collection including *Oncidium crispum grandiflorum*, very fine; *Cypripedium Stonei*, *Saccolabium guttatum* and *Schroederi*, *Dendrobium Devonianum*, *Epidendrum vitellinum majus*, and *Odontoglossum Alexandræ*, all good. Messrs. Jackson & Sons were second with larger plants, including *Lælia Brysiana*, with sepals and petals of snowy whiteness; *L. purpurata*, *Saccolabium retusum* and *præmorsum*, and *Aërides Lobbiani* and *odoratum majus*, very large. Mr. Bates, gardener to W. H. Punchard, Esq., had the third place; an extra being awarded to Mr. Child, *Saccolabium guttatum* in his group being exceedingly fine. Messrs. Rollisson exhibited *Cypripedium spectabile* in superior condition, also *C. niveum* and the remarkably spotted *Mormodes pardinum*.

In the miscellaneous collection of plants Messrs. Veitch staged a choice group, also a collection of *Roses* in pots, very dwarf, very good, and greatly admired; Mr. Dean, Ealing, an extensive and attractive collection of succulents and bedding plants; Mr. Chancellor, very superior *Musk*; Messrs. Osborne & Sons, Fulham, a large and effective group of decorative plants; Mr. W. Steel, Richmond, standard *Hollies*, highly ornamental; Mr. Chambers, Westlake Nursery, Isleworth, dwarf flowering *Begonias*, which surrounded with *Isolepis gracilis* had a good effect; and Mr. Goddard, gardener to H. Little, Esq., seedling bedding *Geranium Rosa Little*, very brilliant and floriferous, which has received a first-class certificate at South Kensington. As specimen plants Mr. Bowell exhibited a good plant of *Pelargonium Unique*; and Mr. Linser, gardener to J. Ball, Esq., West Hay, East Sheen, a specimen of the same type—a pyramid 5 feet high, and 6 feet in diameter at the base. Mr. Kinghorn ex-

hibited a new Fern, *Adiantum hirsutum*, highly distinct and elegant.

**DINNER-TABLE DECORATIONS.**—These were not numerous nor very superior. They were placed also on incongruous and rudely-constructed tables. In Class 62, open to all, Miss Kinghorn had the first place with a charmingly arranged table, the fruit being excellent, and the decorations of flowers and Ferns exceedingly chaste; Mr. Brown, Marshgate, Richmond, having the second place with a neatly arranged table of fruit, Ferns, and Grasses. In Class 63, for ladies of the district, Miss E. Mackinnon, Ham Common, was placed first; Mrs. Askew, Ellerker House, Richmond, second; and Mrs. Mackinnon third, with elaborately arranged tables. For single decoration Miss Rose Little, Cambridge Park, Twickenham; Miss J. Warde, 3, South Terrace, Richmond; and Mrs. Hunter, Isleworth, were placed in the order named. Miss Little's decoration—a glassy pool with Water Lilies, and a miniature bank fringed with flowers—was very ornamental. Bouquets were not good, nor "button-holes" superior.

In this tent a basket of hardy flowers exhibited by Lady Parker was highly ornamental, and it is to be regretted that there was not a better response for the prizes offered by Lady Parker for flowers of this nature; the example sent was very charming. Hanging baskets were also exhibited in the same tent, but some of them were "made-up affairs," and none superior. The prizes went to Mr. Atrill, Mr. Wells, and Mr. Morrell.

**ROSES.**—Of these many boxes were exhibited, Messrs. Paul and Son, Cheshunt, securing the chief prizes for thirty-six and twenty-four blooms in the open class; Messrs. Dobson & Sons being second. Madame Lacharme in Messrs. Pauls' stand was in excellent form. Mr. Laing exhibited good boxes, not for competition. In the amateurs' classes for twenty-four blooms Mr. Moorman, gardener to the Misses Christy, had the first place for an admirable stand, followed by Mr. James, Redlees; and J. S. Virtue, Esq., Otlands Park. Mr. James also secured the special prizes offered by C. Turner White, Esq., and H. G. Bohn, Esq. Other successful exhibitors were J. Wigan, Esq., Rev. W. Finch, Mr. Holford, Mr. Yates, D. Roberts, Esq., R. H. Hunter, Esq., &c. For eighteen bunches of cut flowers Mr. James, Messrs. Dobson & Sons, and Mr. Kinghorn staged good collections, and were awarded the prizes in the order of their names.

**FRUIT.**—There was a good show of fruit, but it was generally not of a high quality. Pines were small but ripe. W. H. Punchard, Esq., was first for three fruits, also for one fruit. Mr. Brown, gardener to H.R.H. the Duc d'Anmale, having a third prize. Grapes were rather extensively exhibited, but with the exception of about three dishes they were brown and not Black Hamburgs. For a single bunch of black Grapes F. Wigan, Esq., was first; Mr. Sallows, gardener to J. J. Flack, Esq., second; and Mr. Bates, gardener to W. H. Punchard, Esq., third; but none of them were superior. For three bunches of black Grapes Mr. Bowell was first with very good Black Hamburgs; Mr. Bates being second with unripe Madresfield Courts; and Mr. James third with small bunches, but the best finished Hamburgs in the Exhibition. For Muscats, Mr. Bates was first with fine, well-filled, and finished bunches; Mr. Fry, gardener to Col. Beresford, being second; and F. Wigan, Esq., third. For a collection of six dishes, Mr. Cornhill, gardener to J. S. Virtue, Esq., was first with a Pine, Grapes, Apples, Peaches, Nectarines, and Strawberries, all good; Mr. Kent, gardener to C. W. Curtis, Esq., Coombe End, Kingston, being second. For Melons (green-flesh), Mr. Pithers, Munster House, Fulham, was first with an excellent and handsome fruit of A. F. Barron, the best Melon in the Exhibition; J. Wigan, Esq., being second with Heckfield Hybrid; and F. Wigan, Esq., third. Scarlet-flesh—first, F. Wigan, Esq., with Cox's Golden Gem; second, Mr. Brown, Orleans House, with Little Heath; and third, Mr. Wagstaffe with a seedling. Mr. Turner, George Street, Richmond, exhibited four fruits of Little Heath weighing 17 lbs. 9 ozs. In Strawberries (two dishes), Mr. James was first with President and Sir J. Paxton; Mr. Croker, gardener to G. Whitby, Esq., second with Sir J. Paxton and Sir C. Napier; and Mr. Fry third with Vicomtesse Hélicart de Thury and Keens' Seedling. For single dishes the prizes went to Mr. Croker, Mr. James, and Mr. Bond. The Strawberries were good and well coloured. For Peaches, Mr. Lake, gardener to Mrs. Boycott, Cambridge Park, Twickenham, was first with Royal George, very fine; Mr. Atrill being second, and Mr. F. Wigan third. For Nectarines, Mr. Lake was first with Violette Hative, excellent; Mr. Baker, gardener to W. Budd, Esq., second with Pine Apple; and Mr. Wells third. For Plums, Mr. Baker was first with Kirke's; and Miss Headley second with Transparent Gage. Cucumbers were of fair quality, Mr. Beadle, gardener to E. A. Woodroffe, Esq., winning with White Spine, Mr. Morrell being second with Tender and True, and Mr. Wells third with Monro's Duke of Edinburgh.

**VEGETABLES.**—These were not of high quality. For a collection of ten kinds Mr. Fry, Sheen House, was first; Mr. Bond

second, his collection including good Celery; and Mr. Atrill third. Messrs. James Carter & Co. offered a silver cup value five guineas for eighteen dishes, for which there was very good competition; Mr. Bond, gardener to Mrs. Beckford, Oxford House, Ham, winning, his collection including Mushrooms and Celery, otherwise it was no better, if as good, as some of the other collections.

Potatoes were generally small, Cabbages and Cauliflowers large, Peas scarce, and Turnips and Carrots anything but good. Some of the vegetables staged by the cottagers were fully as good as those exhibited by gardeners. For cottagers many special prizes were given, and a good display of garden products were staged. Altogether the Exhibition must be pronounced a very successful one, and visitors were exceedingly numerous.

## ROYAL HORTICULTURAL SOCIETY.

JULY 5TH.

**FRUIT COMMITTEE.**—Henry Webb, Esq., in the chair. A very fine dish of Tomatoes, called Jackson's Tomato, was sent by Mr. R. Gilbert of The Gardens, Burghley. They were large, almost quite smooth without furrows, and of a fine deep red. It received a cultural commendation. Mr. Wright, gardener, the Manor House, Lower Stoughton, sent a dish of a seedling Pea which very much resembled Dickson's Favourite. As the Committee decline to give an opinion upon Peas except in a state of growth these were passed. Colonel Trevor Clark sent fruit of the Doyenné d'Été Pear perfectly ripe. Mr. Charles Turner of Slough sent a fruit of the White Turkey Cucumber, an old variety now almost out of cultivation in this country, but well known as one of the best in flavour, and with a fine aroma. Philip Crowley, Esq., of Waddon House, Croydon, sent a fine specimen of Shaddock, to which a cultural commendation was awarded. Mr. Gilbert, The Gardens, Burghley, sent several seedling Melons. One, called The First Lord, was raised from the African Melon of Sir S. Baker crossed with Victory of Bath, but it was not considered to possess any merit. The second was a red-fleshed variety, which was also inferior in flavour. The third, Hughes' Golden Nugget, was better than the preceding, but still inferior. The true African was very deficient of flavour. Hero of Bath, a red-fleshed variety, was the best of the collection. Prince's Favourite, another red-flesh, was also inferior. Mr. Oxford, The Hall, Kenilworth, sent a Melon raised by crossing Hero of Bath with Horticultural Prize, but it was inferior in flavour.

A seedling Strawberry called Pioneer was sent by Thomas Laxton, Esq., of Stamford—a handsome cone-shaped Strawberry with a firm flesh, a briskly flavoured fruit with a decided Haut-bois aroma. The skin is dark red, and the seeds are small and prominent. It was awarded a first-class certificate.

A collection of thirty-seven varieties of Strawberries came from the garden at Chiswick. Mr. Batters, gardener to Mrs. Willis Fleming, sent a dish each of Winter Greening and Norfolk Beefing Apples.

**FLORAL COMMITTEE.**—R. B. Postans, Esq., in the chair. A pair of very fine plants of *Spiraea palmata* were exhibited by Mr. Strahan, gardener to P. Crowley, Esq., Waddon House, Croydon. These plants were 5 feet high and through, and each contained thirty heads of beautiful pink flowers, and the foliage was perfect, overhanging the sides of the pots. A cultural certificate was worthily awarded for these fine specimens.

R. B. Foster, Esq., Clewer Manor, Windsor, exhibited seven varieties of show Pelargoniums, and first-class certificates were awarded to Lord of the Isles, a bold highly-coloured flower with large truss and fine foliage, a splendid variety; to Sappho, a dwarf variety of close habit, the lower petals being salmon pink, the upper petals violet cerise, with very dark blotch and white centre, very attractive; and to Toby, a flower of good substance, smooth, and of the most intensely crimson scarlet to be found in Pelargoniums.

A botanical certificate was awarded to Mr. Green, Botanical Nursery, Holmesdale Road, Reigate, for *Eryngium pumilum*, a hardy Thistle-like plant with violet-tinted bracts and spiny florets—an interesting plant.

A first-class certificate was awarded to Thomas Laxton, Esq., Stamford, for double white Pelargonium Mrs. Trevor Clarke. This is not a dirty pink semi-double variety, but is really double and really white. It appears to be a free bloomer, and the trusses are large; the leaves possess great substance and are faintly zoned. This plant is thoroughly distinct, appears to possess intrinsic merit, and is an important acquisition to double Pelargoniums; it can hardly fail to become very popular.

A cultural commendation was awarded to Mr. R. Veitch, Exeter, for a pan of the brilliant-berried plant, *Nertera depressa*, a remarkably fine specimen; the small coral-like berries being packed tier upon tier. This charming alpine plant is worthy of extended cultivation. It is very nearly or quite hardy.

Messrs. Veitch & Sons, Chelsea, exhibited Ferns *Osmunda palustris* and *Nipholobolus lingua cristata*, a very fine *Gloxinia*,

a new *Lælia*, and *Ismene amancaes* var. *integra* with yellow *Narcissus* or rather enlarged *Pancratium*-like flowers, the prevailing colour being bright yellow. It is a very gay plant requiring greenhouse treatment.

Mr. T. Laxton exhibited several new *Roses*; and Mr. Turner exhibited a close dark crimson *Rose*. These varieties require further time to prove their character.

## WESTMINSTER AQUARIUM ROSE SHOW.

JULY 5TH AND 6TH.

FORTUNATE in time of fixture must be written of this Show, for it was timed when *Roses* generally were in fullest beauty. The collections were very superior, many, perhaps the majority, of the blooms being in the perfection of splendour. The competition was also good, and the Show was large as well as excellent, notwithstanding that several exhibitors who had entered failed to fulfil their engagements, a practice which unfortunately would appear to be growing into a system. We cannot do more than record the winners in several of the classes, the varieties being the same as those reported as successful at other shows held earlier in the week, only here they were, as a whole, finer than any which have been previously submitted to the public during the present season, not even excepting the admirable display that was staged at Oxford. The collections were arranged round the sides of the large hall, the table decorations being in the eastern vestibule.

In Class 1, for seventy-two *Roses* distinct (nurserymen), five competitors, Mr. Cant, Colchester; Messrs. Cranston & Mayos, Hereford; Messrs. Paul & Son, Cheshunt; and Mr. Keynes, Salisbury, were placed in the order named with really grand collections; Messrs. Cranston's being the smallest blooms, and Messrs. Pauls' the largest.

In Class 2, for forty-eight trebles, six collections, Messrs. Paul and Son being first, Mr. Keynes second with rather small but beautifully fresh blooms; Mr. Turner, Slough, third, and Mr. Cant fourth. This class was most difficult to judge. Mr. Keynes's were much the smallest and Messrs. Pauls' the largest blooms.

In the class for twenty-four trebles Mr. Turner was first with a grand and most perfect collection, Messrs. Paul & Son, Cheshunt, being second, Mr. Keynes third, and Mr. Cant fourth; and in Class 4, for twenty-four single trusses, five competitors, Mr. Turner was first, Mr. Cant second, Mr. Keynes third, and Messrs. Cranston & Mayos fourth, all staging in admirable form.

In the amateurs' class for forty-eight single trusses Mr. Baker, Heavitree, was first with a formidable collection of undoubted merit; Mr. Nicholl, gardener to T. H. Powell, Esq., Drinkstone Park, Bury St. Edmunds, being second, and Mr. Hollingworth, Maidstone, third.

In Class 10, for twelve Tea-scented or *Noisette* *Roses* (nurserymen), four competed, the awards going in the following order to Messrs. J. Mitchell & Sons, Pitdown Nurseries, Uckfield; Messrs. Paul & Son, Cheshunt; and Mr. J. Keynes, Salisbury. The blooms were larger, but not equal in quality and freshness to those in the following class. For twelve Teas (amateurs), seven competitors, the Rev. J. B. M. Camm, Monkton Wyde, Charnmouth, being first with a splendid stand containing Marie Van Houtte in a style we have never seen equalled; Madame Bravy, Souvenir d'Elise, Triomphe de Rennes, Devoniensis, Catherine Mermet, Céline Forestier, Souvenir d'un Ami, Comtesse de Nadailiac, Moiré, Caroline Kuster, and Souvenir de Paul Neron. T. Jowitt, Esq., The Old Weir, Hereford, was second with blooms of almost equal excellence, and J. Hollingworth, Esq., Turkey Mills, Maidstone, third.

For twelve *Roses*, single blooms (open), five competed. Mr. Cant was placed first for a marvellously fine collection; Mr. G. Cooling, Bath, being second; and Mr. R. N. G. Baker, Heavitree, Devon, third.

In the class for twenty-four *Roses* in 8-inch pots (open), Messrs. Paul & Son were first, and Mr. Turner second, for dwarf plants, having from five to ten blooms on each.

For twelve trusses of Alfred Colomb Messrs. Paul & Son were placed first, they being the only exhibitors. For twelve trusses of Duke of Edinburgh Mr. Cant was first with immense blooms; and Messrs. Paul & Son, Cheshunt, second. For twelve trusses of Baroness de Rothschild ten fine collections were staged. Mr. R. N. G. Baker being first with really magnificent blooms; J. Sargent, Esq., Reigate, being second. For twelve trusses of La France there were five competitors, Mr. Burley, The Nurseries, Brentwood, winning with perfectly formed blooms; Messrs. Paul & Son, Cheshunt, having the second place. For twelve trusses of Maréchal Niel, Mr. Cant was first with rather poor blooms. For twelve trusses of Marie Baumann Mr. Turner was first, and Messrs. Paul & Son second, for splendid collections. For twelve trusses of Devoniensis Mr. Cant was the only exhibitor, staging blooms 4 to 5 inches in diameter, and securing the first prize.

In the amateurs' class for twenty-four single trusses the com-

petition was great, and the quality of the collections very good. The first prize was awarded to Mr. Sargent, Reigate; second to Mr. T. Gravely, Cowfield, Sussex; third Mr. Gould, Mortimer, Berks; and fourth Mr. Camm.

In the class for twelve single trusses, nine collections, Mr. Benstead, Rockton, Maidstone, being first with a splendid box; the Rev. A. Cheales, Brookham Vicarage, Reigate, second (admirable); Mr. Ridout, gardener to W. L. Brown, Esq., Reigate, third; and J. H. Pemberton, Esq., and O. O. Hanbury, Esq., equal fourth. All very good.

In the class for twelve *Roses* of 1874, 1875, or 1876 (open), Mr. Turner was first with Villaret de Joyeuse, Miss Hassard, Sir G. Wolseley, Antoine Mouton, Royal Standard, Oxonian, Perle des Jardins, William Gayter, Mrs. Baker, Countess Serenyi, J. S. Mill, and Rev. J. B. M. Camm. Messrs. Paul & Son were second, Duke of Connaught and Duchess of Edinburgh being particularly fine. Mr. Keynes third, and Mr. Cant fourth. In Class 9, for six trusses of any *Rose* of 1874, 1875, or 1876, seven competitors. First prize Mr. Cant for Prince Arthur, a *Rose* of the type of Général Jacqueminot, having great smoothness of petal, extraordinary rich in colour, and sweet—a fine variety. Mr. Turner was second, and submitted in one box Royal Standard, Miss Hassard, J. S. Mill, and Rev. J. B. M. Camm, four *Roses* which should be added to all lists not containing them. Messrs. Paul & Son, Cheshunt, being third for Emily Laxton, perfect blooms and beautiful. For a "vase" of *Roses*, first Mr. Hooper, Bath; three others being disqualified for exhibiting in glasses.

In the plant classes there was scarcely any competition. Fairly good *Fuchsias* were staged, and the prizes were awarded to Mr. Wiston, gardener to R. D. Martineau, Esq., Clapham Park; Mr. Lambert, gardener to H. W. Segelcke, Esq., Herne Hill, Dulwich; and Mr. Watson, gardener to H. Bryant, Esq., Glencairn, Surbiton, in the order named. In the class for twelve *Liliums* (open) Mr. Turner, Slough, was the only exhibitor, staging *L. auratum* with magnificent blooms, *L. pardalinum*, *L. Brownii*, and *L. Humboldtii*, and secured the first prize.

Mr. Hooper, Bath, had a second prize for twelve *Carnations*; he also exhibited *Pansies*.

A first-class certificate was awarded to Mr. R. Dean, Ranelagh Road, Ealing, for double Stock "Mauve Queen," a splendid variety, which should be largely grown. Mr. Osman, Metropolitan District Schools, Sutton, was highly commended for Seville Longpod Beans.

DINNER-TABLE DECORATIONS.—For a table laid for fourteen persons, and arranged so as to show the best means of utilising fruit and flowers in its adornment, prizes of £25, £20, £15, and £10 were offered and were awarded to Mr. C. Burley, The Nursery, Brentwood; Mr. J. Cypher, The Nursery, Queen's Road, Cheltenham; Mr. Harris, Clarendon Park, Salisbury; and Mr. Soder, gardener to O. O. Hanbury, Esq., Weald Hall, in the order named. Highly commended, Messrs. Dick Radcliffe & Co. These decorations will be more fully alluded to on a future occasion.

## BROCKHAM ROSE SHOW.

JULY 1ST.

BROCKHAM is a Surrey village on the banks of the Mole, and gives its name to a kind of peripatetic *Rose* Association, holding meetings by invitation in the grounds of various members of the Association at Brockham, Holmwood, and Mickleham alternately. The Society this year pitched their tent at North Holmwood, where they were most hospitably received by the Ladies Mary and Ann Legge. The principal prizetakers were as follows:—

Class 1.—Champion prize, given by Sir Trevor Lawrence, Bart., M.P. Best box of twelve *Roses* in the Show. Prize, an ornamental object value £2, B. Pawle, Esq. Class 2.—Any kind. Group 1, twenty-four varieties; one bloom or truss of each. Three prizes.—1, Rev. A. Cheales; 2, Mrs. Mortimer; 3, F. Wollaston. Group 2, twelve varieties; one bloom or truss of each. Two prizes.—1, J. O. Pawle, Esq.; 2, E. Horne, Esq. Group 3, six varieties; one bloom or truss of each. Class 3.—All of the same variety. Group 1, twelve *Roses*; one bloom or truss of each. Two prizes.—1, Mrs. Mortimer; 2, Capt. Lang. Class 4.—Triplets of any kind. Group 1, eight varieties; three blooms or trusses of each. Two prizes.—1, Rev. A. Cheales; 2, Mrs. Mortimer. Group 2, four varieties; three blooms or trusses of each. Two prizes.—1, E. Horne, Esq.; 2, Capt. Lang. Class 5.—Teas and *Noisettes*. Group 1, twelve varieties; one bloom or truss of each. Two prizes.—1, Rev. A. Cheales; 2, J. D. Pawle, Esq. Class 8.—Bouquets and devices. 1. One device for table decoration, consisting of *Roses* combined with Ferns or other foliage. Two prizes.—1, Mrs. Chaldecott; 2, Mrs. T. B. Nichols. 2. One device for table decoration of any flowers combined with any foliage. Two prizes.—1, Miss Chaldecott; 2, Mrs. Benecke. 3. One hand bouquet of *Roses* combined with Ferns or other foliage. Two prizes.—1, Miss S. Cheales; 2, Miss Wilson. 4. Button hole bouquet; one *Rose* or *Rosebud* combined with

foliage or other flowers, in groups of not less than three. Three prizes.—1, Mrs. T. B. Nichols; 2, Miss Wilson; 3, Miss A. Benecke.

In this Association and the sister one at Reigate a practice prevails of giving prizes for the best Rose in the Show. This creates considerable interest, and has an educating tendency. Camille de Rohan has several times obtained this honour, also Annie Wood and Marie Baumann. On this occasion Louis Van Houtte was distinguished. Amongst Teas Madame Bravy has come oftenest to the front, and next Maréchal Niel, Gloire de Dijon, and Madame Margottin. This year the winner was Souvenir d'un Ami.

Judges.—W. W. Saunders, Esq., F.R.S.; Rev. A. B. Alexander, and Mr. George Paul.

### ROSES AT WISBECH SHOW.

THE third annual Exhibition of Roses, &c., was held in Colville House grounds (lent by Mr. John Baker) on Thursday last. The grounds were in excellent condition. Like other early Rose exhibitions the blooms at Wisbech showed very plainly the effects of the May frosts. As a rule the flowers were not up to the mark in colour or quality.

Reynolds Hole was well exhibited in several stands. Madame Lacharme, Général Jacqueminot, Maréchal Niel, François Michelin, Marguerite de St. Amand, Baron Adolphe de Rothschild, and Dupuy-Jamain, were the best blooms in the winning stands.

Mr. W. Farren of Cambridge was the most successful exhibitor, securing the three silver cups in the open classes. The amateurs' classes were well contested; but the blooms were wanting in quality and size. A basket of twelve blooms of Madame Lacharme exhibited by Mr. Prince of Oxford were simply superb.

Bouquets were well shown and in good taste, also table decorations were very fair; only it is a pity the exhibitors will crowd so many flowers in. However choice the flowers may be, the stands look so much better with few flowers arranged with taste. Appended is a list of the awards:—

Open classes.—Forty-eight varieties of Roses, one truss of each distinct kind.—1, silver cup value £10, Mr. W. Farren, Cambridge; 2, Mr. J. House, Peterborough; 3, Mr. G. Prince, Oxford. Twenty-four varieties of Roses, one truss of each distinct kind.—1, silver cup value £5, Mr. W. Farren; 2, Col. Read, Elm; 3, Mr. J. L. Curtis, Chatteris. Twelve varieties of Roses, three blooms of each, distinct.—1, silver cup, Mr. L. Farren, Cambridge; 2, Mr. G. W. Piper, Uckfield; 3, Miss Penrice, Norwich. Twelve Roses of any variety.—1, Mr. G. Prince; 2, Mr. W. Farren; 3, Mr. J. L. Curtis. Best specimen bloom of any Rose.—1, Mr. E. Bagge, Islington Hall, Lynn; 2, Mr. J. L. Curtis; 3, Miss Penrice.

Amateurs (including nurserymen within a circuit of ten miles of Wisbech).—Twenty-four varieties of Roses, one truss of each, distinct.—1, Mr. J. S. Curtis; 2, Hon. and Rev. F. J. O. Spencer, Sutton; 3, A. H. Ward, Esq., Elm. Twelve varieties of Roses, one truss of each distinct kind.—1, Mr. J. L. Curtis; 2, Hon. and Rev. F. J. O. Spencer; 3, Mr. J. Burton, Peterborough.—H.

### A PLEA FOR FOXGLOVE CULTURE.

AMONGST the many fine biennials that bloom at the present time, there are possibly none to surpass the Foxglove for its noble appearance. Planted in groups in the shrubbery, among ruins, on extensive rockwork, surrounded by trees, or near the flowing spring or the standing pool, it always gives a charm to them, and grows equally well in sunshine or in shade, in moisture or in drought; whilst its hardiness, long-flowering period, and its various colours ought to commend it to all lovers of hardy flowering plants.

It is a native plant and found growing wild in abundance in some places. Fine as these are they are not to be compared with some of the beautiful varieties in cultivation, especially Ivory's varieties, some of these being so beautifully spotted as to compare with the choicest Gloxinias, the colours varying from the purest white to purple, with several intermediate shades of rose, rose-pink, &c.

It is one of the easiest of plants to cultivate, being increased by seed, which should be sown at once to insure good plants for next year. Seed should be sown in the open ground and covered slightly, the seedlings to be afterwards transplanted where they are to remain for flowering.—J. B. L.

### NOTES AND GLEANINGS.

WE are requested to call attention to an error in the schedule of the Royal Horticultural Society at page 19, where it is stated among Messrs. Sutton's prizes that in the collection of Cucumbers and Melons there is to be a single specimen of

the former and a brace of the latter. It ought to read—a brace of the former and a single specimen of the latter.

— WE have to remind our readers that Messrs. VERTCH AND SONS' FRUIT PRIZES will be awarded at the great Exhibition of the Royal Horticultural Society, which is to be held on the 19th. No doubt these will form a great attraction, as they have always been one of the leading features of the July shows. The vegetable prizes offered by Messrs. James Carter and Co. will be competed for at the same exhibition.

— SOME important EXHIBITIONS are pending. The Alexandra Palace Rose Show on the 7th may be expected to be a great success, seeing that it is timed when Roses generally are at their best. Sandown Park, a new Show, falls on the same day. Nottingham on the 6th (this day), is always a great show. Ipswich, Frome, and Newark Shows are held on the same day, and Reigate (Roses) on the 8th. Only a continuance of "flower-show weather" is necessary to render these events as successful and enjoyable as their promoters can desire.

— WE have been favoured by having a copy sent to us of a reprint of JOHN GERARD'S "CATALOGUE OF PLANTS," cultivated in his garden in Holborn in the sixteenth century. The reprint is "privately printed," and beautiful in the typography and paper. A life of Gerard by the Editor, Mr. B. D. Jackson, is prefixed, which includes, with some additions, the life of Gerard which we took great pains to gather together and publish in this Journal in vol. xxviii., page 145. Our biography is accompanied by a portrait of Gerard.

— THE CITY FLOWER SHOW will be held in Finsbury Circus on Tuesday the 11th inst. The prizes will be distributed by H.R.H. the Duchess of Teck at 2 P.M.

— WE recommend to all METEOROLOGISTS Mr. G. J. Symons's volume "On the Distribution of Rain over the British Isles during 1875." It contains a mass of information besides the record of observations made at eighteen hundred stations.

— SEAGULLS.—Having had one of these birds in our garden for about five years, I can, from experience, state that they are most valuable exterminators of those garden pests slugs, &c. I would strongly recommend any of your readers to procure one.—Pax (in *English Mechanic*).

### CRYSTAL PALACE ROSE SHOW.

JUNE 30TH.

ROSE shows have become so popular and Rose-showing has been brought to such a high state of excellence, the shows which have been held during past years have been so superior and have merited such unmixed admiration, that a show, and especially at the Crystal Palace, is invariably looked forward to with great expectations. It was so last year, and the anticipations were more than realised by the result; and it was so this year, but the result was unfortunately of a different character. The Show was a postponed Exhibition, yet a premature one, for many of the greatest growers were unable to stage blooms worthy of themselves and of the varieties which they exhibited. The Exhibition was not so large as last year's grand display, and its average quality was below that of the last gathering in the same place. Need we say that the chilling ungenial spring has set at nought the highest cultural skill and the best of management in producing the Rose in full perfection?

At this tournament Cant was the conqueror, and set up fine yet not faultless boxes. Paul & Son were not in their old (Cheshunt) form. The Slough Roses were not such blooms as the past has produced, and as we are sanguine the future will equal. The Oxford contingent was scarcely a Princely one; and even Salisbury has not been sufficiently salubrious to enable Mr. Keynes to do so well as he has done before.

Let us now look a little more minutely, commencing with the nurserymen's class for seventy-two varieties, single blooms. The winners were placed in the following order.—Mr. Cant, Colchester; Messrs. Paul & Son, Cheshunt; and Messrs. Cranston & Mayos, Hereford; Mr. Prince, Oxford, receiving an extra prize. The Colchester Roses were as a rule massive in petal, pure, glossy, and fine, and the foliage was good. Amongst the light colours Madame Lacharme was very good, Madame Bravy excellent, as also was Souvenir d'Elise. Of high merit also were Devonensis, Duc de Montpensier, Miss Hassard, La France, Mdle. Marie Cointet, Souvenir d'un Ami, Madame Hippolyte Jamain, Madame la Baronne de Rothschild, and La Boule d'Or. Of darker shades the most noticeable were La Ville de Lyon, Mons. Noman, La Duchesse de Morny, Madame Fillion, Hippolyte Jamain, Marguerite de St. Amand, Mdle. Marie Finger, Abel Grand, Nardy Frères, and Princess Beatrice. The best of the dark Roses were Ferdinand de Lesseps, Fisher Holmes, Dupuy-Jamain, very fine; Mdle. Marie Rady, splendid; Prince Camille de Rohan, Baron de Bonstettin, Auguste Niesmann



Thomas Mills, Beauty of Waltham, Reynolds Hole, and Exposition de Brie. In the Cheshunt collection rich colours preponderated. Very fine were Exposition de Brie, Marie Baumann, Etienne Levet, Duke of Connaught, Mrs. G. Paul, Madame Nachury, Xavier Olibo, Senateur Vaisse, and Maurice Bernardin. Of light colours Madame Lacharme, Miss N. Grain, Madame Vidot, Duchess of Edinburgh, La France, and Madame la Baronne de Rothschild were very fine; and of rose colours the best were Madame Alice Dureau, Elie Morel, The Shah, Rev. J. B. M. Camm, Mons. Noman, Edouard Morren, Madame Therese Levet, and Marquise de Castellane. Fine as many of these blooms were, it was plain that they had not opened kindly, and they spoke as clearly as injured Roses could speak—"bad weather." Messrs. Cranston & Mayos had in superior form Madame Vidot, Mdlle. Marie Cointet, Madame Lacharme, Centifolia Rosea, and a lovely Homère. The most noticeable in Mr. Prince's collection being the Teas—Madame Opioix, Alba Rosea, Marcellin Rhoda, Jean Ducher, Madame Margot in, and a perfect Madame Lacharme. There were seven entries.

In the class for forty-eight trebles Mr. Cant, Messrs. Paul and Son, and Mr. C. Turner, Slough, were placed as named. Mr. Cant's blooms were all powerful by their size, quality, and excellence. Dupuy-Jamain was here in splendid form, and very fine were Madame Lacharme, Thomas Mills, Prince Arthur, Maréchal Niel, Louis Van Houtte, Etienne Levet, and Madame Willermoz. Messrs. Paul & Son had as their best Annie Laxton, Henri Ledechaux, Miss Ingram, Mons. Noman very fine, Louis Van Houtte, and Rev. J. B. M. Camm; the most noticeable of Mr. Turner's being Lord Napier, Beauty of Waltham, Mons. Bellon, Marquise de Mortemart, and J. S. Mill. Five competed.

In the class for twenty-four trebles there were nine competitors. Mr. Cant was again first with a formidable collection; Mr. Turner being second, his stands containing many remarkably fine flowers; Messrs. Paul & Son having the third place, an extra prize being awarded to Mr. Prince. The varieties being much the same as those above enumerated. For twenty-four singles eight competed, the awards going in the following order to Messrs. Cranston & Mayos, Mr. Turner, and Mr. Cant.

In Class 5, for twelve Tea-scented and Noisette Roses Messrs. Paul & Son, Cheshunt, were first with splendid examples of Souvenir d'un Ami, Perle des Jardins, Cheshunt Hybrid, Jean Ducher, Marie Van Houtte, Devoniensis, Homère, Perle de Lyon, and Rubens. Mr. R. T. Veitch, Exeter, was second; and Messrs. Davison & Co., Hereford, third. Mr. Prince and Mr. Cant staged admirable collections.

We now come to the amateurs' classes. For forty-eight varieties, single trusses, nine competed, the premier prize going to Mr. Rushmore, gardener to Sir C. R. Rowley, Bart., Tending Park, Colchester; Mr. Nicholl, gardener to T. C. Powell, Esq., Drinkstone Park, Bury St. Edmunds, was second; Mr. R. N. G. Baker, Heavitree; and Mr. Davis, Salisbury, being placed equal thirds. In the first-prize collection Julie Touvais was never staged in finer condition. Pitard was also very fine; and good were Elie Morel, Emilie Hausburgh, Baronne de Rothschild, and Dr. Andry, the rest being small. Mr. Powell's were of more level excellence, and but for their being a trifle too much expanded must have had the first place, which many thought they merited. Souvenir d'Elise was splendid, and almost equally fine were Marquise de Mortemart, Eugene Vavin, Edouard Morren, Princess Mary of Cambridge, Dupuy-Jamain, Exposition de Brie, and Maréchal Niel.

In the class for thirty-six varieties, single blooms, seventeen competed. Mr. Baker was first, Mr. Nicholl second, and Mr. Rushmore third; an extra prize going to Mr. J. L. Curtis, Chatteris. Mr. Baker's blooms were rather small, but splendidly fresh, bright, and beautiful, and with perfect foliage. Mons. Noman, Madame C. Crapetlet, Camille Bernardin, Auguste Rigotard, very fine; Xavier Olibo, Catherine Mermet, Caroline Kuster, Edouard Morren, and Marie Baumann were the most remarkable in this collection. For twenty-four trebles Mr. Baker was again first with a grand collection, the blooms being full, massive and clear, but not large. Marie Baumann, Baronne de Rothschild, Marquise de Castellane, Camille Bernardin, Mdlle. Marie Rady, Louise Van Houtte, Marguerite de St. Amand, extra fine; Ferdinand de Lesseps, and Madame Victor Verdier were just as these fine varieties should be. Mr. Davis, Salisbury, was placed second, and Mr. J. Hollingworth, Maidstone, third. In the class for twelve trebles Mr. Baker was again first; Mr. Henry Atkinson, Brentwood, second; Mr. J. Ridout, gardener to S. Brown, Esq., Reigate, third, an extra prize being awarded to Mr. J. E. Cavell, Bardwell Villa, Walton Manor, Oxford. The amateurs' Roses, excepting, perhaps, Mr. Baker's, were much below the standard of the nurserymen's collections.

In the open classes the competitors were not very numerous. For twelve Roses of 1874 and 1875 Messrs. Paul & Son, Cheshunt, were first, with as the best Mons. E. Y. Teas, a most promising Rose of high quality; Marchioness of Exeter, a light Edouard

Morren, and very good; Miss Hassard, somewhat similar to but better than the preceding Rose; Rev. J. B. M. Camm, Sir Garnet Wolsley, Star of Waltham, and Comte Serenyi. Mr. Turner, Slough, was second, his best being Oxonian, massive and fine; Miss Hassard, very superior; Isaac Wilkinson, a very close dark flower; Hippolyte Jamain, and Dean of Windsor, a promising variety. Mr. Keynes, Salisbury, was placed third, his best blooms being Miss Hassard, Wilson Saunders, and Mons. E. Y. Teas. For six trusses of any Rose of 1875 or 1876 Messrs. Paul and Son, Cheshunt, were first with Rev. J. B. M. Camm; Mr. Turner being second with Miss Hassard, and Mr. Cant third with Antoine Mouton, a faded Paul Neron. For twelve blooms of Duke of Edinburgh Messrs. Paul & Son, Cheshunt, Mr. Cant and Mr. Cavell were the successful exhibitors. For twelve of Maréchal Niel Mr. Davison, Whitecross Nursery, Hereford, was first, Mr. Cant second, and Mr. Webb, Calcot, third. Mr. Davison exhibited a small velvet Rose, La Rosière, which was greatly admired by the lady visitors. For twelve blooms any variety, Mr. J. L. Curtis, Chatteris, Cambridgeshire, was first with Marie Baumann; Messrs. Paul & Son were second with Etienne Levet, Mr. Turner being third with Miss Hassard, extra prizes being awarded to Sir C. R. Rowley for Madame Lacharme, and a prize to Mr. Laxton for Annie Laxton. For a collection of yellow Roses Messrs. Paul & Son, Mr. Prince, and Mr. Webb were awarded the prizes. Mr. Corp, Oxford, had an extra prize for a collection of Tea Roses, and Mr. Laing exhibited the old but charming miniature Rose de Meaux.

Full Roses, such as Alfred Colomb, Charles Lefebvre, Duchesse de Caylus, &c., were sparsely exhibited; while flowers of the Dr. Andry, Exposition de Brie, Auguste Rigotard, and Dupuy-Jamain type were staged freely. Mr. Baker's Auguste Rigotard was perhaps the finest Rose in the Exhibition. Mdlle. Marie Cointet, which caused such a sensation last year, was seen in several stands, but in none really superior. Madame Lacharme has improved in character, and is more than holding her last year's position. Rev. J. B. Camm is more firmly than ever established as a constant, if rather small, and extremely sweet Rose—a Rose to be had and enjoyed by all. Miss Hassard, Oxonian, Etienne Levet, and Cheshunt Hybrid were in splendid form. Marchioness of Exeter, R. Marnock, and Duke of Connaught were all well exhibited by Messrs. Paul & Son. Amongst the finest and most promising of the newer Roses were Monsieur E. Y. Teas, and Mr. Turner's new dark Rose Mrs. Baker, which received a first-class certificate. Messrs. Paul & Son, The Old Nurseries, Cheshunt, also had certificates for seedling Roses Emily Laxton and Marchioness of Exeter; and Mr. J. Laing, Stanstead Nurseries, Forest Hill, for Fuchsia Laing's Hybrid, a distinct cross between *F. fulgens* and one of the ordinary greenhouse varieties.

The Table Decorations, always a great feature at this Show, occupied the centre of the transept; there were eighteen tables in competition for three sets of prizes. The tables were 12 feet by 6 feet, and were not allowed to be "cut or mutilated." The great fault with many of the tables was their being overdone with decorations. One exhibitor made a mistake in placing very large fronds of *Lastrea Filix-mas* as an edging to the base of his stands; they nearly covered the tablecloth. There was also considerable sameness about the whole of them, the large white Water Lily and Cornflowers being invariably present. In nearly all the classes the competitors who obtained awards stood very near each other; and the Judges, Miss Hassard (now Mrs. Tyrrel), and Mr. Harrison Weir, spared no pains to arrive at a correct decision, their office being by no means an enviable one. In the open class the first prize fell to Mrs. W. Seale, London Road, Sevenoaks. If any fault could be found with this table it was that the centre stand had too much colour from some very large flowers of *Dipladenia Brearleyana* being placed in it. The other flowers were Water Lilies, small yellow *Dendrobium* flowers, and *Rhodanthe*, with *Adiantum farleyense*. The main flowers in the side stands were *Kalosanthes* and Water Lilies. Wild Grasses were mixed with them. Nearly all the stands were of the same pattern, being a slender glass stem rising from the centre of a flat dish, at the top of the stem a smaller dish, and from the centre of this a trumpet-shaped vase. Mrs. Seale had twelve small glasses with button-hole bouquets of small Rosebuds and Forget-me-nots, and two small glass baskets with white Roses. Mr. C. Burley, nurseryman, Brentwood, was second. The base of his stands were fringed with hardy Ferns, *Lastrea* and *Athyrium*. The centre stand was filled with Roses, *Rhodanthe*, and purple Iris. The small glasses had each double Rosebuds. The side pieces were plants of *Cocos Weddelliana* with a base of Roses and purple Iris. Mr. T. Butcher, South Norwood, was third. The vases here were triplets, and the whole was very nicely arranged, but there was too much of it.

The next class was for amateurs, and Mr. Soder, gardener to Osgood Hanbury, Esq., Weald Hall, Brentwood, was first, and this stand was perhaps as well arranged as any in the Show. The centre piece was a fine *Cocos Weddelliana*, the base being filled-in with *Amaryllis*, white Water Lilies, *Anthurium*, fancy



Pelargoniums, Ixias, and pink Geraniums; the tops of the side stands were filled with Cornflowers, Rhodanthe, and Orchids; the base, *Epidendrum vitellinum*, Cape Pelargoniums, Water Lilies and double rose Geraniums. The small glasses had single Rosebuds, and four glass baskets completed the arrangement. These were filled with single pips of Marie Lemoine double Pelargonium, with a base of Maidenhair Ferns. Mrs. Burley, Brentwood, was second. Her centre stand was nicely balanced with Roses, Water Lilies, &c. The sides were Palms, with similar vases to the centre. Small dishes were very neat, filled with Maidenhair Fern and pale blue Delphiniums. The Rosebuds in the small glasses had the leaves cut off and Fern fronds put in instead—a barbarous practice, as a Rose looks best with its own leaves. Mr. F. Lambert, gardener to H. W. Segelscke, Esq., Herne Hill, Dulwich, was third. His three centres were Palms (Cocos). He had small glasses and four baskets.

In class C, for ladies only, Mrs. Burley was first, and her arrangement was very neat, except that the base of the centre piece was a little too glaring with three very large red Cactus flowers. These were alternated with *Eucharis*, interspersed amongst them being *Pancratium*, Iris, and *Anthurium*. *Agapanthus umbellatus* was worked into the base of the side stands. Mrs. Seale was second, and we thought that her table was lighter and more elegant than that of the first-prize. The three stands were of equal size; and the flowers, which were Water Lilies, blue Delphiniums, rose and white Rhodanthes with wild Grasses, Ferns, and *Lycopods*, were tastefully arranged. The third prize went to Miss Edith Blair, 22, Mornington Crescent, Regent's Park. This arrangement was certainly the neatest and simplest in the Exhibition, and was well worthy of a higher position. The base of the centre stand was filled with a most delicate-tinted Iris, crimson *Kalosanthes*, and *Stephanotis*; the top being small Begonia flowers, *Stephanotis*, and a pale-flowered *Kalosanthes*, Rhodanthes, and very fine Grasses; the side pieces were two very handsome *Cocos Weddelliana*, and the base simply blue Delphinium and Maidenhair. Four small dishes each contained a Maidenhair Fern edged with leaves of a *Tricolor Pelargonium*.

In the Miscellaneous class Mr. John Laing, Goldstead Park, Forest Hill, sent two of his new Bronze and Gold Zonal Pelargoniums. One of them the best yet raised, named John Jenner Weir, is a most beautiful plant; the leaf is almost circular, with a narrow edge of greenish yellow enclosing a broad band of chocolate red, with yellow centre. Mrs. Horniman is also a fine sort, with circular leaves and medium band of chocolate red. The same exhibitor sent about thirty-six sorts of Delphiniums, amongst them was a very fine seedling. The colour is a rich deep blue with very dark centre. All the shades of blue were represented from the palest blue to deep purple-blue. He had also a dozen flowers of the old striped Rose, York and Lancaster. Mr. Parker of Tooting sent cut flowers of the English Iris (*I. xiphoides*), many of them being strikingly beautiful. The best were Harlequin, Mercurius, Pelius, Prince of Wales, Bell Brunette, Madame Charme, Heroine, Francois Fayel, and Duke of Portland. He had also some cut flowers of herbaceous Paeonies (*P. sinensis*), also herbaceous and other hardy plants for which he is so famous.

Bouquets were very good, but not different to those of former years. For the best wedding bouquet (open), the prizes went to Mrs. L. M. Chater, 40, Denmark Hill, Camberwell, and Mr. Charles Hepburn, Crystal Palace. For the best opera bouquet (open), to Mr. Charles Hepburn and Mrs. L. M. Chater. For button-hole bouquets (open), to Mr. Charles Hepburn and Mr. W. Wood, High Street, Sydenham.

### MAIDSTONE ROSE SHOW.

This Exhibition was held in the Corn Exchange on June 28th under the auspices of the Maidstone Rose Club; and there was not a box of indifferent blooms in the Show. Most of our principal Rose-growers exhibited. These included Messrs. Paul of the Cheshunt Nurseries, Mr. Charles Turner of Slough, Mr. B. Cant of Colchester, and Mitchell of Uckfield. While among amateurs who came from a distance were Mr. R. G. Baker, Heavitree, Devon; Mr. Thomas Jowitt of Hereford; Mr. Quennell of Brentwood, Essex; and Mr. Harrington of Romford, besides several others.

In Class 6, for forty-eight varieties, three trusses of each, Messrs. Paul & Son were a good first, Mr. B. Cant second, and Mr. C. Turner third. In the first-prize lot among those most conspicuous were grand blooms of *Marquise de Castellane*, *Horsae Vernet*, *Baronne de Rothschild*, *Madame Lacharme*, very fine; *Duchess of Edinburgh*, *Princess Beatrice*, *Devoniensis*, and *Mons. Noman*; while the other competitors in this class had, besides similar sorts, *La France*, *Marguerite de St. Amand*, and *Capitaine Christy* in excellent condition. In Class 8, for twelve varieties of Tea and Noisettes, Mr. Mitchell of Uckfield took the first prize, a cup value £5, given by Thomas Hollingworth, Esq. Mr. Mitchell had splendid examples of *Maréchal Niel*, *Narisse*, *Gloire de Dijon*, *Duc de Margottin*, *Madame*

*Margottin*, and *Souvenir de Paul Neron*. In the class for amateurs (open), thirty-six varieties, one truss of each, Mr. J. G. Baker of Heavitree, Devon, with his blooms stood a long way first, he winning the £10 10s. and cup presented by John Hollingworth, Esq.; Mr. Jowitt of Hereford was second, and Mr. Harrington of Romford third; while for twenty-four varieties (open to amateurs only) J. C. Quennell, Esq., of Brentwood, Essex, took the cup presented by Edwin Amies, Esq., and the first prize. He had in high finish *Madame de St. Amand*, *Maréchal Niel*, *Devoniensis*, *Abel Grand*, *Madame Bonnaire*, *La France*, Dr. Andry, Charles Lefebvre, *Thérèse Levet*, *Victor Verdier*, and others before mentioned. Their brightness was very striking in comparison to the others. Mr. C. Turner exhibited two boxes of his splendid *Rose Miss Hassard*. This is a conspicuous flower of good shape and substance, and ought to have been placed in a better position than on the floor of the room. He likewise exhibited some splendid blooms of Rev. J. B. Camm and Oxonian. In Class 6 Mr. Turner's three blooms of *Madame Lacharme* were very superior and very much admired. Local exhibitors, both belonging to the Club as well as the Maidstone Horticultural Society, came in rather numerous, and brought some excellent and well-finished blooms. Many were fresh exhibitors, showing that Rose-growing about the neighbourhood is on the increase. This is mainly due to the Honorary Secretaries of both Societies—H. Bensted, Esq., and Herbert Monckton, Esq.—who combine in their efforts to make the Rose Show at Maidstone a success both practically as well as financially; and this year it was no disappointment in either sense, for it was pronounced by competent judges, such as Messrs. Paul and Turner, to be in all ways a grand exhibition for the season. The stands and devices were very well and gracefully arranged. The first-prize stand came from Mrs. J. B. Green, and consisted of a great variety of Roses of all sections, mostly just opening their buds. There were Fern fronds of both silver and gold, Maidenhair, and common Grasses and Woodbine. Miss Kate Lawrence was a good second, and the Rev. H. Biron third, with much the same style of arrangement.

The following is a list of the prizes:—

Class 1.—Any kinds of Roses. Group 1, eighteen varieties, one truss of each.—1 and cup, T. F. B. Atkins, Esq., Halstead; 2, H. Bensted, Esq., Maidstone; 3, H. F. Warde, Esq., Tatham, West Farleigh. Group 2, twelve varieties.—1, Rev. H. B. Biron, Biddenden; 2, J. Weld, Esq., Marden; 3, R. W. Tootell, Esq., Thurnham. Group 3, six varieties.—1, J. Smythe, Esq., Maidstone; 2, Mrs. J. B. Green, Tovil. Class 2.—Tea-scented and Noisette. Group 1, twelve varieties, one truss of each.—No entries. Group 2, six varieties.—1, J. Weld, Esq.; equal 2, Mrs. J. B. Green and L. A. Killick, Esq., Langley. Class 3.—Any kinds. Group 1, twelve varieties, three trusses of each.—No entries. Group 2, six varieties.—Rev. H. B. Biron. Class 4.—All of same variety, six trusses.—1, R. W. Tootell, Esq.; 2, L. A. Killick, Esq. Class 5.—Device consisting of Roses combined with Ferns or other foliage.—1, Mrs. J. B. Green; 2, Miss K. Lawrence; 3, Rev. H. B. Biron; 4, L. A. Killick, Esq. Button-hole Bouquet.—1, Mrs. J. B. Green; 2, R. W. Tootell, Esq.; 3, Rev. H. B. Biron.

Open to all England. Class 6.—Forty-eight varieties, three trusses each.—1, Paul & Son, Cheshunt; 2, Mr. B. Cant, Colchester; 3, Mr. C. Turner, Slough. Class 7.—Thirty-six varieties, one truss of each. No competition. Class 8.—Twelve varieties, Tea-scented and Noisette, one truss of each.—1, Messrs. Mitchell, Uckfield; 2, Paul & Son; 3, Mr. B. Cant. Amateurs only. Class 9.—Thirty-six varieties, one truss of each.—Cup and 1, R. G. Baker, Esq., Heavitree, Devon; 2, T. Jowitt, Esq., Hereford; 3, W. W. Harrington, Esq., Romford; 4, Mr. P. Bennett, gardener to W. W. Burrell, Esq. Class 10.—Twenty-four varieties, one truss of each.—Cup and 1, J. C. Quennell, Esq., Brentwood, Essex; 2, J. Sargant, Esq., Reigate; 3, Rev. A. Cheales, Brookham; 4, J. Wakeley, Esq., Rainham. Class 11.—Twelve Tea-scented and Noisette, one truss of each.—1, J. Hollingworth, Esq., Maidstone; 2, R. G. Baker, Esq.; 3, T. Jowitt, Esq.

Open to Members of the Maidstone Horticultural Society.—Class 12.—Twenty-four varieties, one truss of each.—1, J. Hollingworth, Esq.; 2, Mr. W. Wilson, Ashford; 3, Mr. J. Wakeley. Class 13.—Twelve varieties.—1, L. A. Killick, Esq.; 2, Misses Jones, Hayle Place; 3, W. Mercer, Esq., Hunton. Class 14.—Twelve varieties, Tea-scented and Noisette, one truss of each.—1, J. Hollingworth, Esq.; 2, Misses Jones.

The cups were presented by Sir J. Lubbock, Sir Sydney Waterlow, Major Ross, John Hollingworth, Esq., and Mr. Edwin Amies; and a silver cup value £5 was given by Thomas Hollingworth, Esq., for the best box of twelve Tea-scented and Noisette Roses in the Show.

### DRACENA GOLDIEANA.

MR. ABBEY in a recent number of the *Journal of Horticulture* has written very fully on the increase of cultivation of *Dracenas*. In that communication he adverted to the extreme

usefulness of these plants—of those species and varieties in ordinary cultivation, shadowing that there were others of recent introduction surpassing in many respects the old kinds in character and beauty of colouring. He had then probably

in view the celebrated English seedlings which startled the horticultural world by their variety and beauty.

Admitting the value of many of these, it nevertheless cannot be questioned that no English-raised *Dracæna*, nor any

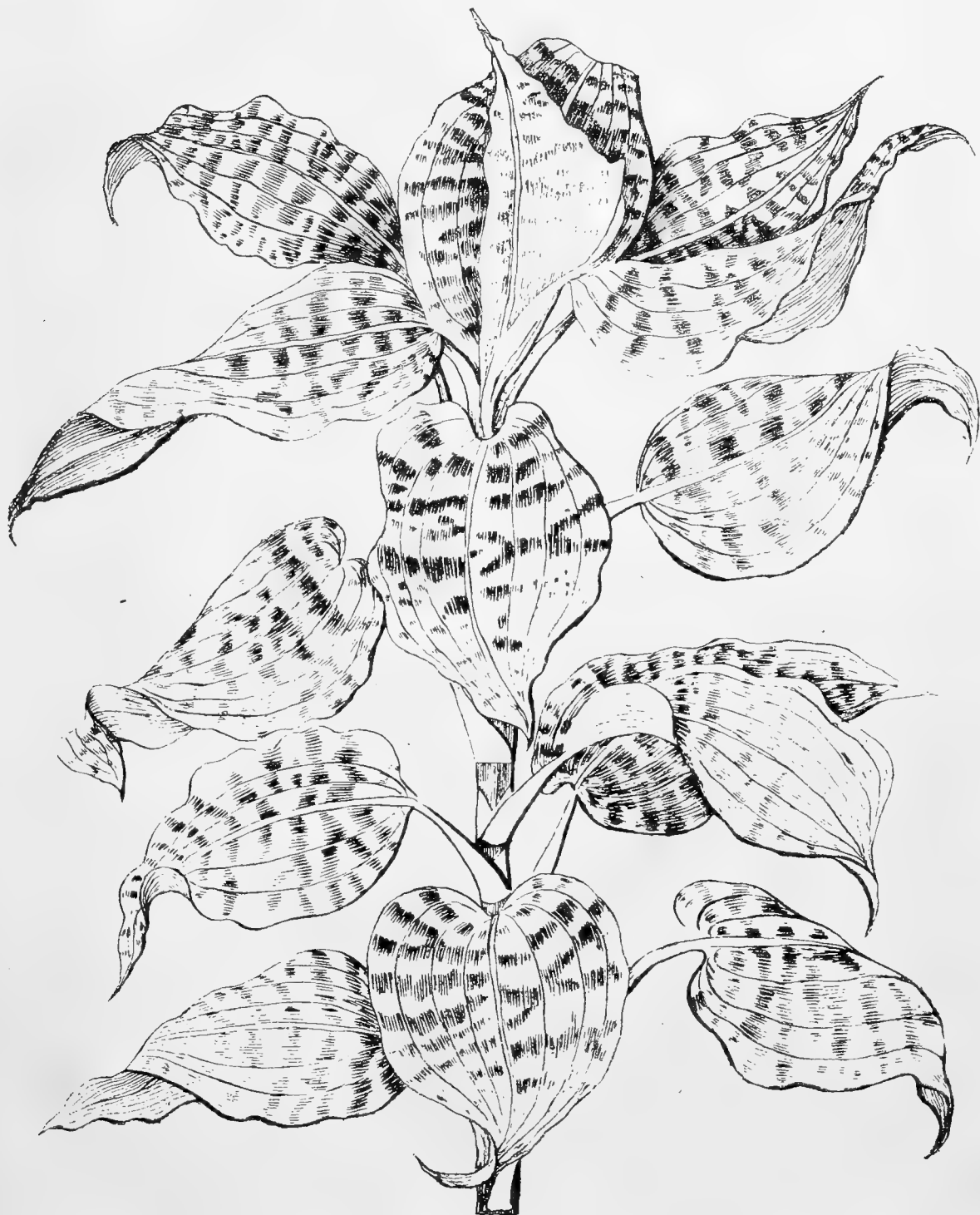


Fig. 2.—*DRACÆNA GOLDIEANA*.

*Dracæna* introduced from abroad, is comparable for distinctness of character and striking and remarkable leaf-colouration to *Dracæna Goldieana*. So thoroughly distinct is this plant that it has been regarded by many as belonging to another genus. It is as a *Dracæna*, however, that it has received high

honours in England, and as a *Dracæna* that it received the gold medal for the best new representative of the genus at the late Great Centennial International Exhibition at Brussels. At that great gathering of the world's floral treasures no other new plant attracted more admiration. No mere description

can convey an adequate idea of *D. Goldieana* to those who have not had an opportunity of seeing the plant.

It is not only not like any other known species or variety, but is altogether unlike them. In the recognised type the leaves of *Dracenas* are more or less lanceolate, and are erect or drooping; but of this species the leaves are cordate, 6 or 7 inches long by 5 to 6 inches broad in the widest part, and are nearly horizontal. Hitherto, also, the colouring in the foliage of *Dracenas* has been arranged longitudinally, but in this plant it is transverse. It is difficult to say which of its two colours preponderate, the zebra-like markings of silvery grey occupying as much space as the olive green.

The accompanying figure, drawn on a reduced scale by permission of Mr. Bull from one of his plants, gives a correct representation.

As an exhibition plant in a collection of *Dracenas* this species is very conspicuous, while as a decorative plant it cannot fail to command attention by its stateliness of habit and by the conspicuous yet chaste markings of its glossy marbled foliage.

The history of the plant is remarkable. It was discovered by Mr. Goldie in Africa, and sent by him to the Botanic Gardens at Glasgow. On its being proved there a description of it was written by the Curator, Mr. Bullen; and on this description and in relying on the judgment and character of the Curator, Mr. Bull without seeing the plant purchased it. It is not yet in commerce.

### ROSE STOCKS.

THE experience of Mr. Peach, page 341, as to the comparative merits of Briar and Manetti stocks may be quite what he describes it; but it must not be supposed that the Briar is everywhere an inferior stock, or tender.

I followed a gentleman tenant of mine here (Cheshire S.) who had budded largely on the Briar, and then (ten years ago) purchased his stock of Roses. I have many of them still, and they must be at least thirteen years old. Most of them are in great vigour, and promising to continue so. The difficulty with some is to keep them in reasonable bounds. A *Gloire de Dijon* is now covering a considerable space of wall, and a picture of health and beauty; and another, which has been left uncut (except taking out old wood), is equally large and flourishing. As to the hardness of the Briar, do not Mr. Peach's facts of the winter in Northamptonshire of 1860 prove too much? If "large Oak trees which had stood 'the battle and the breeze' two or three hundred years" were killed by that frost, it must have been a singularly exceptional case.

The Dog Rose grows here naturally very fine; I never saw it anywhere finer. I have many Roses on the Manetti. They neither do as well generally as Roses on the Briar, and I find the stock shoots from the Manetti so like many of the Roses as to be difficult to distinguish.

Attracted by Mr. Prince's (Oxford) catalogue of Roses on the seedling Briar, I last winter obtained and planted some twenty of them. All nearly are now in fine healthy growth, and with a promise of bloom that would not disgrace Roses which had been in position two years. I observe Mr. Peach says the seedling Briar as a stock is not open to the same objection as the "hedgerow or mop-headed" stocks. With what he says about those I quite agree, and as to their unsightliness, except the flowers. Mr. Prince's method of raising stocks promises, I think, a great advance in Rose culture, and I shall not be surprised, with all deference to Mr. Peach, if the seedling Briar does not put his pet Manetti's "nose out."

I observe on reading the *Journal of Horticulture* that a diversity of opinion and experience is not confined to growing Roses, and may teach us to be thankful that we have so much choice, that what will not succeed in one situation and soil will in another. Indeed it would be scarcely possible to find the place where something will not really flourish, and that is the thing when found out to cultivate. Some of our most beautiful plants badly grown are little better than weeds, and so the converse of common things.—V.

### STRAWBERRIES.

LAST year I planted runners of about nine varieties of Strawberries, selected from the "election" lists in your *Journal*. With one exception the greater proportion of plants of each variety have flowered, and are setting their fruit. The exception is Sir Joseph Paxton, of which not a single plant has

flowered, although in growth and appearance they seem to have done the best. I conclude they have run to leaf. But what makes it the more remarkable that this kind should alone have failed is, that the half of the plants have received rather different treatment to the other half. One row (about fifteen plants) was removed (owing to being in the way of some alterations) in November, and the other row remained where first planted in the beginning of August. I received the runners from a friend, and know that they were taken from fruiting plants.

I shall not layer from these plants, but as the perusal of your *Journal* has caused me to estimate this variety as one of the very best I shall let my present plants remain another year, and I write to ask whether I should submit them to any special treatment, such as cutting off the leaves. My soil is a light-coloured virgin loam (Bracken and Foxgloves preceded the Strawberries), and the ground was well trenched and manured for planting, but no manure has been applied since. I shall be glad to have the opinions of practical correspondents on this matter.—J. T.

### BURTON-ON-TRENT SHOW.

THIS Show, held on the 28th inst., was the finest the Society ever had; from fifteen to twenty thousand people were on the ground, all of whom seemed to thoroughly appreciate the beautiful plants and fruit that was collected together.

Mr. Cypher of Cheltenham was first for the twelve stove and greenhouse plants, the most noticeable being *Anthurium Scherzerianum*, forty-six spathes, a beautiful plant; *Gleichenia rupestris*, 5 feet through; *Stephanotis floribunda*, very superior; *Croton Weismannii*, 6 feet by 5 feet; *Dracophyllum gracile*, very good; *Allamanda Hendersonii* and *A. grandiflora*, &c. Mr. Pilgrim, Cheltenham, was second; *Phenocoma prolifera*, *Croton pictum*, *Dipladenia Brearleyana*, *Bougainvillea glabra*, *Croton longiflorum*, *Dracophyllum gracile*, &c., being in admirable condition. Mr. Tudgy, Worcester, being third; *Dipladenia amabilis*, *Anthurium Scherzerianum*, with over forty spathes; *Cocos Weddiana*, a *Bougainvillea*, and *Allamanda grandiflora* being the best plants in his collection. The other exhibits do not call for especial mention, being mainly contributed from the neighbouring gentlemen's seats; but certainly without them the Show would have lost most of its interest, as the plants were admirable specimens of culture. The Rangemore collection is always a special feature of this Show—in fact is a show in itself.

Grapes were sadly in want of colour, but very fine in bunch and berry. Peaches and Nectarines were very fine, the winning half-dozen Peaches weighing 4 lbs. The Pines were very good, the winning Queen weighing 5 lbs. The Cherries and Strawberries were not good. Vegetables were not quite so good as in other years, yet many collections deserved much praise.—J.

### GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE anniversary dinner of the Gardeners' Royal Benevolent Institution was held at the Albion Tavern, Aldersgate Street, on the evening of Friday last. The chair was occupied by Dr. Hogg, Secretary of the Royal Horticultural Society, who was supported on the right by Lord Alfred S. Churchill, Rev. C. P. Peach, Mr. Robert Wrench the Treasurer, Mr. Frank Fuller, Mr. Richard Smith, Mr. T. F. Rivers, Mr. J. Bolton, &c.; and on the left by Mr. G. F. Wilson, F.R.S., Dr. Masters, F.R.S., Professor Bentley, Mr. Marnock, Mr. William Paul, Mr. E. J. Beale, Mr. Charles Lee, &c.; and among the rest of the company were Rev. Canon Hole, Mr. T. Moore, Mr. B. S. Williams, Mr. Charles Turner, Mr. Weeks, Mr. Deal, Mr. James Gray, Mr. Weston, Mr. H. J. Adams, Mr. A. C. Wheeler, and a large gathering of horticulturists to the number of a hundred or more.

This was one of the finest—some say the finest—meeting the Institution has ever had. The room, which is far superior for the purpose to that at the London Tavern where the dinners have been held for many years, was splendidly decorated, Mr. B. S. Williams, Messrs. J. & C. Lee, Messrs. Veitch & Sons, and Mr. Charles Turner having contributed most liberally and gratuitously handsome specimen plants of Palms, Cycads, Tree Ferns, *Dracenas*, Caladiums, and other fine-foliaged plants interspersed with other plants in bloom, and which were not lumped together in a mass as formerly, but distributed all over the room wherever they could be introduced with the greatest effect. The table was richly furnished with the ample resources of the establishment, which were greatly helped by several elaborate plateaux and groups of fruit and flowers presented for the occasion by Mr. Buck and Mr. Dickson, the two great florists and bouquetists of Covent Garden. Nothing could exceed in beauty and richness of quality the group sent by Mr. Buck, which graced the head of the table in front of the Chairman; and the general effect of the whole was such as to call forth the admiration of everyone who was present. Even the toastmaster

was prompted to remark in *otto voce*, "I have been to many dinners, sir, but I have seen nothing like this in the City of London this year."

On rising to propose the health of Her Majesty the Queen the Chairman was received with an outburst of applause which was long, and often repeated. After the loyal toasts, Lord Alfred S. Churchill having in an excellent speech replied for the army, the Rev. C. P. Peach proposed "The President and the Vice-Presidents of the Institution," which was responded to by Mr. G. F. Wilson, F.R.S., one of the Vice-Presidents.

The Chairman then introduced what is called the toast of the evening, "Prosperity to the Gardeners' Royal Benevolent Institution." He said, in proposing this toast I have to introduce to your notice the claims and merits of an Institution which is not one of those whose history has long been associated with that of this ancient city. Its origin is of more recent date, and does not extend beyond the time of living memory. It was on January 17th, 1839, that a few earnest men, of whom few are now alive, met at the Crown and Anchor Tavern in the Strand to inaugurate a Gardeners' Benevolent Society. Mr. Buchanan of Camberwell was in the chair, and they resolved to carry out the object they had in view. On the 29th of the same month a second meeting was held at Wright's Hotel in the Strand, the Duke of Cambridge having become President. The only members of the original Committee now living are Mr. Chandler formerly of Vauxhall, Mr. W. Gregory formerly of Cirencester, Mr. Lane of Berkhamstead, Mr. Marnock, a name honoured in horticulture, and whom we have the pleasure of seeing with us this evening [great cheering], and Mr. Protheroe of Leytonstone; so that out of the twenty-four members of the original Committee there are only five who are now alive.

The progress of the Institution was slow at first. Dissensions crept in, and charges of mismanagement were made against the Secretary, who was replaced in 1843 by Mr. Cutler, who has remained Secretary ever since, and under whose good management coupled with that of the Committees the Institution has arrived at its present state of usefulness.

With your permission I will take a retrospect of the working of the Institution by way of reviewing our progress, to see what condition we were in in 1842 and compare it with the present. It is well that we should do this occasionally, that we may know whether we are advancing or retrograding. In 1842 we started with a balance in hand of £106 9s. 10d., and our income from all sources was £2042, of which £187 12s. was from subscriptions. We had then £400 invested in consols, and that year £200 more was added; and as the report states, "these gratifying prospects induce them to recommend that two pensioners be elected according to the rules of the Institution." Let us now turn to our present balance sheet of 1876. We start this year with a balance in hand of £441 9s. 8d., and our income from all sources is £1634 2s. 3d., of which £693 is from subscriptions. We have £10,750 invested in 3 per cent. consols, a balance at the bankers' and in hand of £430 12s., and seventy-four aged pensioners on our list who are receiving sums of £16 and £12 a-year. Now we have doubtless made great progress since 1842, but has it been as great as it ought to have been? I think not; and my reason for saying so is that when I look at the printed list of subscribers there are numerous names of employers and employed which arise in my mind whom I do not find there, and who ought to be there. It is to the employers that we must chiefly look to aid the Institution on behalf of the gardener, and I trust that some scheme will be devised of reaching them more effectually than we have hitherto done. But there are many gardeners who can contribute also and who do not. I have heard some even rail against the Institution, while others scoffed at it; but we have seen some of those who when in their prosperity were loudest in their attacks upon it come, both they and their widows, to be recipients of its charity, and thereby have coals of fire heaped on their heads. There are few so poor as that they cannot spare a guinea a-year at least for such a purpose.

I shall conclude my appeal to you with an anecdote which happened to myself. A few years ago I sent a letter broadcast over the land soliciting subscriptions to the Gardeners' Royal Benevolent Institution, and I am proud to say the result was far beyond my expectation. Twelve months ago a person called at the office of the *Journal of Horticulture* in Fleet Street, and sending in his name requested to see me. I was very much engaged, as I usually am, and could not see him, but requested that if he had anything important to communicate he could send me a note. He did not send me a note, but called several times afterwards while I was absent, still keeping his secret to himself. One day he called while I was there, and his name was again announced. "Do you know what he wants?" said I to the attendant. "No, sir; he says he wants to see yourself, and he has some money for you." "Then show him up," said I [laughter]. My visitor was a grey-headed venerable old man of gentle nature and somewhat agitated in his manner. After I had given him a chair he began, "Two years ago you wrote me a letter asking me to subscribe to the Gardeners' Benevolent. At that time I was in great trouble, and I was very

sorry I could not send you anything. My wife had been an invalid for years, and she was then at her worst; the doctors had given her up, and they said nothing would do her any good but her native air. She longed to go there, and wished to be buried in the churchyard of her native place. I took her down to Langholm in Scotland; that is where she was born, and after a fortnight she died. It was a great expense and sore trouble to me; but you know, sir, I did my duty to her and fulfilled her last request. Then I thought of your letter and began to save, and now I bring you £10 for the Gardeners' Benevolent." Gentlemen, does not that touch your heart-strings and make them vibrate? If so great an effort can be made by one so humble, what may not you and we all do for the poor gardener if we but try? The Chairman sat down amidst great applause.

The next toast, "the Health of the Chairman," was proposed in a clever and humorous speech by Rev. Canon Hole. "The Treasurer and Trustees" was proposed by Dr. Masters, and responded to by Mr. Robert Wrench the Treasurer. "The Royal Horticultural and Botanical Societies of London" was proposed by Mr. W. Paul, and replied to by Lord Alfred S. Churchill and Professor Bentley. "The Seed and Nursery Trades, and thanks to them for their services to the Institution," was proposed by Mr. Frank Fuller and responded to by Mr. B. S. Williams.

On the health of the Secretary being proposed by the Chairman Mr. Cutler returned thanks, and announced that the subscriptions of the evening amounted to upwards of £500.

The music, which was under the direction of Mr. W. Ganz, assisted by Miss Annie Sinclair, Madame Marie Belya, Mr. Trelawny Cobham, and Mr. Maybrick, was executed in a very masterly style, and elicited repeated rounds of applause.

## OXFORD ROSE SHOW.

Much might be written about Oxford—of the beauty of its architecture, its trees, and its gardens, but our remarks must be limited to the grand display of Roses under the Lindens in the grounds of Trinity College. The Show was a postponed Show, and the only day that could be found for a second fixture was Monday, the 3rd inst. Monday was felt to be an unfavourable day, especially for distant exhibitors, but the time for staging the blooms was prolonged until one o'clock, and this enabled an exhibition to be made—even the finest exhibition that up to its date had this year been held in England. Of course when there was such a race against time the trains must be late, yet by extraordinary efforts all collections were staged in time for judging. The Show was arranged as if by magic, and it was with great reluctance that some exhibitors ceased the work of trimming and touching-up their blooms when judging commenced.

The Show was not only intrinsically good, but it was decidedly novel, and unquestionably one of the most delightfully enjoyable Exhibitions that has been held at any time or place. The collections were not arranged under a plastered roof, not even under a roof of canvas, but under a living roof of Limes. This Lime avenue is remarkable for its regular formation and the density of its arch of green. The trees are growing 5 yards apart in two rows about 20 feet asunder. The trees have been roughly pruned at 20 feet from the ground, and their branches arch over and sweep the grass. Underneath the main branches are bare of foliage, and arch over almost with the regularity of the ribs of a cathedral's nave. The light beneath is subdued, and the most powerful sun could not penetrate the thick canopy of foliage. On the day of the Show the sun was not bright, and the bower, 120 yards long, was fully too dark to show the dark Roses to the best advantage; but it was deliciously cool and roomy, and no exhibition under canvas could have been so completely enjoyable and satisfactory.

In the open class for seventy-two varieties, single blooms, Messrs. Paul & Son, Cheshunt, had the first place, followed by Mr. Prince, Oxford, and Mr. Turner, Slough, in the order named. Messrs. Paul & Son's Roses were very massive. Edouard Morren, Marquise de Castellane, Henry Ledechaux were in fine condition. Duke of Edinburgh, Louis Van Houtte, Mons. Noman, Eugénie Verdier, Nardy Frères, Marquise de Gobat, Ferdinand de Lesseps, La France, Mdle. Marie Rady, Beauty of Waltham, Etienne Levet, Emily Laxton, Annie Laxton were all in the old Cheshunt form, and what that is many know—some too well. Amongst the light flowers Madame Lacharme was very beautiful; there were also good blooms of Marquise de Mortemart and Alba Rosea. Mr. Prince's was a fresh and beautiful collection, the blooms not large but just in their best state. Dr. André and Souvenir de Mons. Boll were very splendid; and Marie Baumann, Madame Lacharme, Charles Lefebvre, Duchess of Edinburgh, Madame Fillion, Camille Bernardin, Felix Genero, Maréchal Niel, Homère, and Triomphe de Luxembourg were all in superior form. It was not size but quality and freshness that found favour with the Judges. Equal in these respects were Mr. Turner's blooms, and they were also larger. This was a splendid collection, in which the following were noticeable—Mrs. Baker, Oxonian, Miss Hassard, Sir G. Wolseley, Royal



Standard, J. S. Mill, Annie Laxton (gem of the stand), Star of Waltham, Horace Vernet, a grand bloom; Louisa Wood, excellent; Louis Van Houtte, Etienne Levet, Abel Grand, Ferdinand de Lesseps, Villaret de Joyeuse, Madame Charles Wood, Mons. Noman, Pitard, Baroness de Rothschild, La Fontaine, Alba Roses, Edouard Morren, Marquise de Gobat, Madame Vidot, and Maréchal Niel. Mr. Farren, Cambridge, also exhibited; his collection including a seedling, Alice Farren, a soft General Jacqueminot, of beautiful form, smooth petal, and altogether good, and another seedling of the Horace Vernet type but deeper. Messrs. Cranston & Mayos, and Messrs. Davison & Whitten, Hereford, also staged admirable collections in this class.

In the class for forty-eight trebles Mr. Prince was first, Mr. Turner second, and Messrs. Davison & Whitten third. Mr. Prince had some magnificent blooms, such as Etienne Dupuy and Edward Morren, and charming triplets of Gloire de Sante-nay, Madame Opoix, Souvenir d'Elise Vardon, Madame Bravy, Mlle. Marie Cointet, and Jean Ducher. "The Teas pulled him through" was the general remark; but of more uniform excellence was the Slough collection, which was weakened only by Capitaine Christy and Souvenir de la Malmaison, which were too much expanded; Royal Standard, Mlle. Thérèse Levet, Mons. Noman, J. S. Mill, Pitard, Madame Liabaud, very pure; Miss Hassard, splendid; Ed. Morren, Rev. J. B. M. Camm, Louisa Wood, Oxonian, François Michelin, Etienne Levet, Maréchal Niel, Beauty of Waltham, and Marquise de Castellane were as near perfection as these fine Roses can be. In Davison and Whitten's collection Bessie Johnson was quite lovely, as also were Marguerite de St. Amant and Mlle. Marie Finger; Madame Lacharme was also very good, but the blooms were generally small.

For forty-eight varieties (singles) Mr. Turner, Mr. Prince, and Messrs. Paul & Son, Cheshunt, were placed in the order named. In Mr. Turner's boxes Baroness de Rothschild, François Michelin, and Louis Van Houtte were wonderful blooms; and very fine were Etienne Levet, Xavier Olibo, and Miss Hassard, but all were good saving Gloire de Dijon. Mr. Prince's were smaller, but very compact and remarkably fresh, of the same varieties as previously enumerated; Messrs. Pauls' being very large, some even too large, yet many very perfect, especially Etienne Levet, Madame Laurent, Dr. Andry, Annie Laxton, Centifolia Rosea, &c.; the foliage was also very exuberant.

In the class for twenty-four varieties, singles, Mr. Cooling, Bath, had the premier position for a remarkably good collection. For sixteen triplets Mr. Arkwright, Hampton Court, Leominster, had the first place. He had Maréchal Niel in grand form; Catherine Mermet, exceedingly lovely; Madame Lacharme, Fisher Holmes, Charles Lefebvre, and Souvenir d'un Ami, all in admirable condition. Mr. Cooling was placed second, also with very fine blooms.

For twelve blooms of Marie Baumann Mr. Turner, Slough, won with one of the finest collections ever staged; second Mr. Farren, smaller. For twelve Maréchal Niel, first Mr. Arkwright, Leominster, for a magnificent dozen; second Mr. Prince. For twelve Baroness Rothschild, equal first Mr. Prince and Mr. Farren for noble stands. For twelve La France, first Mr. Cavell with wonderful blooms; second Mr. Prince. The exhibits in this class were remarkable for their great excellence.

For Teas Mr. Jowitt, Mr. Prince, and Mr. Cavell were placed as named. The best blooms were Perle de Lyon, Madame C. Kuster, Homère, Belle Lyonnaise, Madame Margottin, Marie Van Houtte, Reine du Portugal, Adrien Christophe, Naricisse, Madame Charles, Madame Opoix, Jean Ducher, Souvenir de Paul Neron, Bouquet d'Or, Rubens, La Boule d'Or, Comte de Paris, Madame St. Joseph, and Anna Olivier.

Amateurs.—In the class for forty-eight varieties, single blooms, there was great competition, and many blooms of high character were exhibited. Mr. T. H. Gould, The Vicarage, Mortimer, secured the first prize. The collection included grand examples of François Michelin and Edouard Morren. Amongst lights Alba Rosea, Mons. Van Houtte, America, and Perle de Lyon were all excellent. The second prize went to Mr. J. H. Arkwright with a collection almost equally good, and containing the finest Maréchal Niel we have ever seen exhibited. Mr. Thomas Start, gardener to Rev. C. Evans, Solihull Rectory, near Birmingham, was third, also with a most admirable collection, Madame Lacharme, Belle Lyonnaise, Marie Van Houtte, and Lord Macaulay being in the perfection of loveliness.

For thirty-six varieties, single blooms, Mr. Jowitt, The Old Weir, Hereford, was first with a beautiful collection of perfect blooms, not large, but "in" to the hour. C. Rouillard, Annie Wood, Charles Lefebvre, Le Havre, Mlle. Marie Rady, Mons. Noman, Xavier Olibo, François Michelin, La France were all in the highest possible state of excellence; Mr. J. E. Cavell, Bardwell Villa, Walton Manor, Oxford, being second for a remarkably good collection. Mr. Scott, Warminster, Wilts (Mr. Goodfellow, gardener), having the third place for highly creditable blooms. For twenty-four varieties Rev. C. Evans won with a really admirable collection; Emilie Hausburgh, Madame George Schwartz, and Annie Laxton were highly superior; and

for eighteen varieties Mr. Bradley, Oxford, was first with capital blooms.

In the classes for members of the Society there was spirited competition, and the quality of the blooms was highly complimentary to the several exhibitors. For thirty-six varieties the prizes were secured by Mr. W. J. Emberlin, Mr. J. Bloxham, and Mr. W. Freeman, in the order named; for twenty-four varieties the awards went to Mr. Charles Patey, Mr. Arthur Evans, Mr. Charles Taylor, and Mr. J. P. Bradley; for eighteen varieties Mr. D. Chapman and Mr. Charles Davies won with very good boxes; and for twelve varieties the successful competitors were Mr. J. G. Bartlett, Mr. C. R. Ridley, Mr. John Allin, and Mr. W. Cauldwell.

In the remaining classes excellent blooms were staged, notably those of Mr. Freeman and Mr. Calcutt, which would have done credit to any professional exhibitor.

Bouquets of Roses were numerous, but too formally arranged, and the Judges appeared to have awarded the prizes to those who had packed the blooms together the closest, but *chacun à son goût*.

Both in quality and extent this must be regarded as one of the most successful exhibitions of the year, and the company was exceedingly numerous and appreciative. The judging was expeditiously done. Mr. Ridley's plan of having the names of the exhibitors printed on large cards, and pasting across each the words "first prize," "second prize," and "third prize," is a system not easy to improve. To Mr. Ridley's (the Hon. Secretary) efforts—his zeal, ability, and industry—the Society owes a large measure of its success. Need it be said that the officials of a Show so well managed were attentive and courteous to all?

### OUR BORDER FLOWERS—MADWORTS.

SOME of them are closely allied to shrubs, and are frequently described as half-shrubby. Generally speaking the perennial species are evergreen. We cannot say of the Madworts as we have to say of many of our old border flowers, that they are neglected; far from that, for in many places they are much cared for, and reward the cultivator with a display of their beautiful flowers. What would our spring gardens be without them? What would our herbaceous borders or our rockeries be without those charming occupants during spring and early summer, and often in the autumn and winter furnishing us with stray blooms?

I know of no hardy plants that are more effective than the Alyssums. To see well-established plants of *Alyssum saxatile* compactum, a sheet of bloom with its intense orange hue, cannot easily be forgotten. Others of this charming group are also effective, but the above, in my estimation, carries off the palm. The variegated form is a useful summer bedding plant. *Alyssum spinosa* is a fine addition to our border flowers; it may be turned to good account for all purposes, but especially so in a choice selection of rock plants. *Alyssum olympicum*, *A. montanum*, and others of the family are very ornamental plants.

They may be raised from seed, but are much better from cuttings, as the seedlings are inconstant. Sometimes they may be increased by division, but I find them answer best from cuttings in the early autumn when they have partly matured their growth; they may be cut across at a joint or taken with a heel pared smooth and inserted in moist sandy soil, with good drainage, either under hand-glasses or in cold frames in a shaded situation. When rooted they are best potted and plunged in sand or ashes till required for planting. They will bear a good deal of rough usage, often lasting for years, but are all the better for being often renewed, as old plants become unsightly, having an untidy appearance.—*VERITAS*.

### NOTES ON VILLA AND SUBURBAN GARDENING.

THE AMATEURS' VINERY.—Now that late Grapes are approaching the stoning stage they ought to have the fullest attention paid to them, for a little extra care given now has a very marked influence on the crop.

I have lately inspected three or four of these small vineries, and where the crops were fairly good; but the shoots and foliage have been let alone till they have all become matted together. Now, it is difficult to advise in a case of this nature. If the shoots had been disbudded in their earlier stages of growth, and those left to support the crop had been regularly stopped as previously advised, the bunches and berries would have been larger and the foliage more healthy and better developed. If I advised regular training-up of these neglected growths now I should expect shanking to take place and almost a stoppage of growth, and the berries would most likely be of a foxy colour when ripe instead of possessing the blackness and fine bloom



characteristic of a good Grape with fine flavour. I like to regulate the growth of Vines, so that when or just before they commence colouring the shoots may grow and be kept growing all through the colouring process.

In the case of the Vines referred to I would advise that they receive a very gradual thinning of the lateral shoots, and when that is done, say at two or three times, then the points of the leading shoots may be pinched-out. This will stop rapid growth, yet it will secure ample foliage for the perfection of the crop. Vines neglected in this way are subject to mildew through the condensed moisture settling continually on the leaves and berries.

I am an advocate for allowing Vines to become dry once in every twenty-four hours; after that, when they receive moisture, they can absorb it for the purposes of growth instead of its inducing a stagnant atmosphere from which something injurious is sure to arise. Let there be a circulation of air night and day in these small places, and if the house is placed in a hot sunny position water must be thrown on the floor and over the stages of the house three or four times in the day.

Fires may be dispensed with unless the atmosphere outside is dull and very close, when a little fire heat sufficient to put the inside air in circulation will be necessary. While the berries are stoning they seldom swell much, but as soon as that is over the last swelling before that of colouring takes place, and if the Vines are in a healthy state through that swelling the colouring process may be expected to progress satisfactorily.

Outdoor Vines are now in bloom, and as their season is short and the weather uncontrollable there must be no neglect now. Let all the bunches have full exposure to the sun, so as to induce them as much as possible to come into bloom all at once. In the case of an individual bunch it often happens that if one part of the bunch blooms and sets its fruit before the other part that bunch is irregular, many of the berries not swelling into a size worth having, so that there are two crops in different stages, one of which is fit to use and the other is not.

Early thinning is a great advantage, and it should be done well—I mean that the most promising berries must be left, and all of about one size, and they may be expected to do well.—  
THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

OUR ground is still dusty dry. Rain has fallen south, north, and west of us, and within little more than a mile, but we have not had enough to lay the dust. Allusion was made in the "Doings" at page 495 to the advantages of deep trenching, and the rainfall on June 15th was stated as 6.5 inches, it should be 0.65 inches, or the 65-100 part of an inch. The crops are coming in far too quickly; spring and autumn-sown Cauliflowers are nearly together, and the first and second sowing of Peas are the same. The new variety, Dr. Hogg, is bearing an abundant crop of its large curved pods. William I. is slightly before Alpha, and has the advantage of it for show, the pods being larger and of a much darker green. Alpha being a wrinkled Marrow is more esteemed in the kitchen. All the pods are gathered as soon as they are ready, as if they are left on till they are too old they exhaust the plant and prevent fresh young pods from filling out. We have not yet watered the Peas, but those who find it necessary to do so should not pour the water down upon the stalks, but should draw shallow drills on each side of the rows about 5 or 6 inches from the plants; these should be filled twice with water, and the ground may be hoed over, mulching it with litter if possible. The new Seville Longpod Bean is bearing an enormous crop of large handsome pods. It is now ready for gathering, and is earlier than the Windsor; it seems to be the best sort for exhibition purposes. As the early crops are cleared off the ground is immediately trenched for other crops. The quarter of early Peas is devoted to Strawberries. They will be planted out this year about the middle of July. A good crop to succeed the exhausted Strawberry plants is Broccoli, and as the beds were well trenched and richly manured about twelve months ago the Broccoli may be let into the hard soil with a crowbar after the ground has been cleared from weeds. We have placed stout long sticks to the Scarlet Runners, as we depend on them to supply us with gatherings until the frost comes, and it is astonishing for how long a period they will continue to bear in rich deep soil when the rows are well supplied with water. It is not absolutely necessary to place sticks to this crop. The farmers who grow for the London market do not stick them; they pinch the leading points out, and the plants naturally form a ridge about 2 feet in height. We are planting out in trenches the main crop of Celery. In dry seasons this crop is frequently injured through becoming too dry. From the time the plants appear above ground until they are ready to dig out of the trenches for use they ought not to suffer from drought in any way. The Celery maggot is doing considerable injury to the leaves. By a little patience the pest may be destroyed by crushing it

between the finger and thumb. A full crop of Savoys should now be planted in good soil. Crops of Coleworts and early Cabbages should be planted on all vacant ground as soon as it is cleared of Potatoes, or indeed any crops. There are but few gardens where the ground can be allowed to lie vacant; it must produce at least two crops in one season if cleared by the end of this month. Broccoli should be planted in different situations, and we advise all who have the opportunity to try a plantation under the shelter of a north wall. Broccoli suffers more from alternate sunshine and frost than if it is exposed to frost and the sun is not allowed to shine upon it.

Carrots sown now come in very useful in October and November. Artichokes are now ready for use, and as soon as the heads are cut the stalks should be cut off as close to the ground as possible. We have also made the last sowing of Dwarf Kidney Beans. As this sowing is intended to last until the frost cuts down the plants, the sowing is made in a sheltered position. Under a wall facing west is very good, as here the crop is sheltered from the east winds and the sun does not act upon the plants very early in the day. The crop should be gathered as soon as it is ready, for the plants are soon exhausted if the pods are allowed to hang too long. The plants will sometimes produce gatherings well into October. It is necessary to water the drills well before sowing.

This is also a good time to make a sowing of Turnips for autumn use. The plants come in with us in September and onwards. A later sowing continues the supply until they run to seed in spring. Small salading must be regularly sown in a shady position. A north wall is best for this.

### PINES.

In ordinary seasons the earliest Queens would be nearly over by this time; so far only two or three fruits have been cut in our house, but the suckers are very strong, and will be potted when the plants are ready to be removed from the bed. It is no use potting them sooner, as the bed will not be ready for them until the succession plants are removed from the bed intended for the suckers. Most likely the suckers will not be potted for a month, and they are not expected to bear fruit until 1878. Fire heat has been dispensed with in all the houses, as the weather is very mild at present. The succession plants are rather backward, but the house is not sufficiently heated, and it has not been possible to hurry them on. We are careful to see that none of the plants suffer for want of water at the roots, as over-dryness is very apt to throw Pine plants prematurely into fruit. There are a few Cayennes and Charlotte Rothschilds throwing up fruit which will ripen in autumn and winter. These plants are aided by a little guano dropped in the water at every alternate watering.

### ORCHARD HOUSE.

Except one tree of Early Rivers Peach, which has the fruit stoned and taking the second swelling, all the other trees have the fruit passing through the stoning period. All the trees are in pots; and they require very large supplies of water at least twice daily. The pots have also been mulched with decayed manure and turfy loam in equal proportions. The material is pressed down upon the surface quite firmly with the fingers. We syringe the trees at 6 A.M. and about 5 P.M. daily. All the Strawberry pots have now been cleared out of the house.

### GREENHOUSE AND CONSERVATORY.

Show Pelargoniums are getting past their best, but they still make a tolerably good show. Zonal Pelargoniums ought now to be at their best, and the many different shades of colour—white, pink, salmon, scarlet, crimson, &c., can be arranged so that a fine effect is produced from this class of plants alone. Primulas, Cinerarias, and Calceolarias require to be kept clean, and the plants suffer if exposed directly to bright sunshine. A house with a north aspect suits them best, but if this is not to be obtained the plants must be shaded when the sun strikes directly upon them. Cyclamens are at rest at present, and the plants have just as much water as keeps the foliage from flagging. Hyacinth and Tulip bulbs are quite ripe, and have been turned out of the pots. These roots are always potted, and they flower tolerably well the second year. About three Hyacinths and six Tulip roots are placed in a 6-inch pot. Tying and training Chrysanthemums. All the specimen plants are now in their flowering pots, and the shoots have been pinched for the last time, at least the late-flowering sorts. Aphis has been very troublesome, and as it is difficult to dip the growths in the usual solution the points have been dusted with snuff. We syringe frequently in hot dry weather.

Specimen hardwooded plants are better for being placed out of doors at this season, but the sun must not be allowed to act upon the sides of the pots, else the roots may be destroyed. A slate or board may be placed against the pots to prevent this. All plants subject to be attacked by red spider or thrips should be freely syringed.

### FLOWER GARDEN.

The Dutch hoe has been kept at work amongst the bedded-out plants, and so far nothing seems as yet to have suffered from the drought except the old yellow shrubby Calceolaria rugosa. This

variety is the most hardy sort we have and flowers very freely. It would be very beneficial to the plants if we could give them all a good watering, and then mulch the surface of the ground with decayed manure. Asters also suffer from the attacks of insect pests. The beds have been well watered and mulched, and if this does not start the plants into healthy growth they will be syringed daily with soot water. This causes the foliage to become of a darker green, and soot is obnoxious to most insects. Pinks are in splendid bloom. The plants never were more healthy or the flowers better laced than they are this season. Each plant has about a dozen well-shaped flowers on it at one time. Carnations and Picotees are also coming freely into flower, and it seems as if there would also be a good show of them. Auriculas are very quiet behind a north wall. The plants are carefully watered, they are kept clear from green fly by brushing it off; there are always a few withered leaves at this season which are picked off, and the weeds are not allowed to remain in the pots.

Herbaceous borders require frequent attention at this season, else the stronger-growing subjects quite destroy the more dwarf and tender species. Each plant ought to have its allotted space, and must not be allowed to grow beyond it. Many persons complain that certain tender alpine plants do not succeed with them. How can they unless they have space to grow? The reason is not always the unsuitable soil and situation, but simply that the weaker plants are smothered with their robust neighbours.—J. DOUGLAS.

### TRADE CATALOGUES RECEIVED.

William Clark, The Nurseries, Wallington, Surrey.—*Catalogue of New and Choice Greenhouse and Hardy Plants.*  
Ant. Roozen & Son, Overveen, near Haarlem, Holland.—*Catalogue of Bulbs, Aquatics, Terrestrial Orchids, Gesneriaceous Plants, &c.*

### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

IPSWICH.—July 6th, and September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.  
FROME (Roses). July 6th. Mr. A. R. Baily, Hon. Sec.  
NEWARK (Roses). July 6th. Mr. F. R. Dobney, Sec.  
NOTTINGHAM. July 6th to 10th. Mr. A. Kirk, Municipal Offices, Sec.  
SANDOWN PARK. July 6th and 8th. Mr. Wills, Royal Exotic Nursery, Onslow Crescent, South Kensington, Sec.  
ALEXANDRA PALACE. Roses, July 7th and 8th.  
WELLINGBOROUGH. July 7th and 8th. Mr. W. B. Parke, Hon. Sec.  
REIGATE (Roses). July 8th. Mr. J. Payne, Treasurer.  
EALING, ACTON, AND HANWELL. July 11th (at Fordhook). Mr. R. Dean, Ealing, Sec.  
ENFIELD. July 12th. Mr. J. T. Rofe, Bloomfield Nursery, Sec.  
HELENSBURGH (Roses). July 12th and 13th. Mr. J. Mitchell, Sec.  
WIMBLEDON. July 12th and 13th. Mr. P. Appleby, 5, Linden Cottages, Hon. Sec.  
HIGHGATE. July 13th. Mr. W. M. Burck, 6, North Road, Highgate, Sec.  
WEST OF ENGLAND (HEREFORD). Roses. July 13th. Rev. O. H. Bulmer, Cradenhill, Sec.  
CLIFTON, BRISTOL (Roses, &c.). July 13th. Mr. J. T. Jackson, Sec.  
LEEK (Roses). July 18th. Mr. S. Cartwright, Sheep Market, Leek, Staffordshire, Hon. Sec.  
KILMARNOCK. Roses, July 18th and 19th. General Exhibition, September 14th. Mr. M. Smith, 11, King Street, Sec.  
TONBRIDGE. July 19th. Mr. W. Blair, Hon. Sec.  
ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON. July 19th and 20th (Roses, &c.). November 8th (Fruit).  
THORNTON HEATH. July 21st and 22nd, and September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.  
TEWKESBURY. July 25th. Mr. P. Moore and Mr. H. J. Cochrane, Hon. Secs.  
WREXHAM. July 25th. Mr. J. B. Shirley, Hon. Sec.  
HUNTINGDON. July 26th. Mr. J. Dilley, Market Place, Sec.  
HEADINGLEY. July 26th and 27th. Mr. T. Atkinson, Burleywood, Headingley, Leeds, Sec.  
ABERDEEN (Royal Horticultural Society). July 26th, 27th, and 28th. Mr. Archibald J. Rennie, 123½, Union Street.  
BRIGHOUSE. July 29th. Messrs. C. Jessop & E. Rawnsley, Hon. Secs.  
SALTAIRE. July 29th. Mr. G. A. White, Hon. Sec.  
KILSBY (Flowers). August 1st. Mr. C. E. Bracebridge, Sec.  
HEWORTH (Horticultural). August 2nd. Mr. R. H. Folke, Hon. Sec.  
RAWTENSTALL (ROSEDALE). August 4th and 5th. Mr. M. J. Lonsdale, Sec.  
SOUTHAMPTON. August 5th and 7th. Mr. C. S. Fuidge, 39, York Street, Sec.  
FREDON. August 7th. Mr. G. C. Mann, Sec.  
TAUNTON DEAN. August 10th. Mr. F. H. Woodforde, M.D., and Mr. Clement Smith, Hon. Secs.  
FLEY. August 11th. Mr. Walter Fisher, Hon. Sec.  
ORLEY. August 12th. Mr. Alfred Suttle, Hon. Sec.  
CLAY CROSS. August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec.  
WESTON-SUPER-MARE. August 15th and 16th. Mr. W. B. Frampton, Sec.  
PRESTON. August 16th and 17th. Mr. W. B. Troughton, Hon. Sec.  
SAREWSBURY. August 16th and 17th. Admitt & Naughton, Hon. Secs.  
NORTON, NEAR STOCKTON-ON-TES. August 18th. Mr. C. Turner, Sec.  
MIRFIELD HORTICULTURAL. August 19th. Mr. George Senior and Mr. John Rushforth, Hon. Secs.  
CALNE (Wilts). August 22nd. Mr. H. Blackford, Sec.  
NEWBURY. August 22nd. Mr. H. Seymour, Hon. Sec.  
CHEPSTOW. August 23rd. Mr. R. Thorn, Hon. Sec.  
SEATON BURN. August 26th. Mr. R. Richardson and Mr. W. Elliott, Secs.

CARSHALTON, WALLINGTON, AND BEDDINGTON. August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.  
ISLE OF THANET (MARGATE). August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.  
MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (J. F.).—"The Elements of Botany," by Thomas Moore, published by Longman, will suit a young lady "anxious to begin the study of botany." (Glenmore).—Any bookseller in the town near you can obtain the book you need.

COMPOST FOR CYCLAMENS (J. T.).—Three parts fibrous loam, one part leaf soil or well-decayed manure, one part sandy peat, and a part of silver sand, well mixed and broken-up fine but not sifted, will be suitable. Drain efficiently.

FORMING ROOF FOR GREENHOUSE (E. M. P.).—We know nothing of the house you allude to, but if we understand your sketches aright the supports for the glass in the present case are lengthwise of the house, glazed without putty, and that you wish to convert it into an ordinary roofed house glazed with putty. You will require rafters, and these need not be more than 2 inches thick and 4½ deep, rebated half an inch wide and three-quarters of an inch deep for the glass, and between each of those you will require sash-bars 2½ deep and 1½ inch thick, rebated the same as the rafters. These may be morticed and tenoned into the ridge the depth of rebate below the ridge, and a piece of wood half an inch wide and three-quarters of an inch deep placed on the ridge between the rafters and sash to form the rebate for the glass. The rafters may be secured to the plates at bottom, and a fillet let in between the rafters and sashbars, bringing up the front level with the rebates, which should also project and form a nosing. You ought to have an opening for ventilation 18 inches wide the whole length of the house. Doing the work yourself it ought not to cost more than half of the sum you name.

WEEVLES ON RASPBERRIES (A Subscriber).—The insect you have sent is *Rhynchites alliarie*, which in some seasons attacks fruit-bearing trees of all sorts. It is very different from what is familiarly known as the Raspberry beetle, *Byturus tomentosus*. Evidently the visits to the young shoots are for the purpose of depositing eggs, and the only way by which it can be kept under is by the plan often pursued successfully with other weevils—spreading sheets under the Raspberries at night and gently shaking them. Also all twigs should be at once removed which appear to have been touched. The bark of the Vine sometimes affords a shelter to small companies of these weevils, and should be looked to wherever the species shows itself.

VINES MILDEWEED (A. B. P.).—Apply flowers of sulphur to all the parts affected—leaves, shoots, and bunches, admitting air more freely, repeating the sulphuring if necessary. Dress the border with guano, making the surface quite yellow, and wash-in with water at a temperature of 85° to 90°. The mildew has probably arisen from a too moist and close atmosphere.

COMPOSTS FOR PLANTS (R. A. C.).—The "Cottage Gardeners' Dictionary" gives the compost required for every description of plant. It may be had through any bookseller. If you only require a work treating of greenhouse plants, our "Greenhouse Manual" would suit you. It may be had from our office for 10d.

MELON CULTURE (A Young Gardener).—You may grow the Melon in a light part of the "moderately cool vinery," giving the plant or plants 13-inch pots, well drained, and using a compost of strong or yellow loam, firming well, keeping the neck or collar of the plants rather high in the centre of the pot, and leaving a couple of inches space for watering and top-dressings of manure after the fruit is swelling. Had you a frame on a hotbed of dung we should put out the plants, one in the centre of each light, with 10-inch depth of soil for the plants to grow in.

MARSHAL NIEL ROSE NOT THRIVING (A Subscriber).—The plant has not grown from the soil being so wet as to hinder the formation of roots. It is likely to do better in a bed of fresh soil, and will not be injured by the removal, only shade until established. We do not, however, advise this or any Rose to be grown in a house employed for Cucumbers. It will not long remain healthy, the atmosphere being too warm, close, and moist. Give it a chance in a cool airy house planted in a border of good material—turfy loam rather stiff, with a fourth of manure.

PLANT AND STRAWBERRY (S. B.).—The box was smashed. We can only say the plant is a *Pentstemon*.

GERANIUM LEAVES SPOTTED (A. Bland).—The air of the house is too moist. More ventilation will check the present spots, and prevent more appearing.

FUCHSIAS AND GERANIUMS NOT FLOWERING (G. H. H.).—Having only top light is the probable cause, and if so your only remedy is to place the plants on shelves close to the glass.

DRYING GRASSES AND FLOWERS (K. and J. B. A.).—Take some fine white sand (that called silver sand is the best), wash it repeatedly until all dirt is removed and the water remains clear. Next dry it thoroughly, and fill a vase, a stone flower-pot, or a glass half full of the sand; in this stick fresh-gathered flowers in their natural position, and afterwards cover them gently with the sand, taking care not to damage the petals. Now place the vessel in the sun or in a room where a constant fire is kept, and let it remain until the flowers are perfectly dry. Then remove the sand carefully, and clean the leaves with a feather brush. You must gather your flowers for this purpose when they are dry—that is, after the dew has evaporated. The process succeeds

best with single flowers, but the difficulty attending such double ones as Pinks, Carnations, &c., may be obviated by splitting the cup on each side, and when the flower is quite dry the incision made to adhere by means of gum-water; or the cup may be pricked around with a pin to let out the moisture. White flowers lose their natural colour by this process, but it may be restored by exposing them to a moderate vapour of brimstone; but crimson or scarlet flowers should be placed in a vapour of the solution of tin in spirits of nitre. The green leaves and stems are renovated by the vapour produced from a solution of steel filings in oil of vitriol. When dried the scent of each particular flower may be artificially renewed by dropping into the middle of it some of its essential oil; thus oil of Cloves will scent the Pink, oil of Roses the Rose, oil of Jasmine the Jasmine, &c.

**WHITE PINK** (F. J., Dublin).—There is one called Anne Bullen or Boleyn.

**BAMBOO UNHEALTHY** (A. L. M.).—We find on inquiry that there are this year many instances similar to the one you have noticed. An experienced correspondent states that as the plants become old they are apt to die off after the manner of old roots of Pampas Grass. He advises that all the small shoots of the Bamboo be cut away, leaving the few strong canes which may show some signs of life for another year's trial, subsequently transferring the plant to a fresh site and soil, when it may regain its usual healthy state.

**HAND PLOUGH**.—"G. M." wishes to know if it answers in a kitchen garden.

**MARKING LAWN TENNIS GROUND** (Young Ponica).—The only plan we know is to mix whitening to the consistency of whitewash with water and apply with a brush, drawing a line about 2 inches wide. It does not injure the grass, and is not obliterated by mowing, but becomes fainter each time, requiring renewal occasionally, and after heavy rain, which washes away the chalk mark. In mowing we take no account of the chalk line, simply taking up the poles and pegs with the net, readjusting them after mowing.

**KALMIA LATIFOLIA AFTER FLOWERING** (Wimbledon Target).—The plant should be placed outdoors in a sheltered situation, the pot plunged in ashes and duly supplied with water. Having flowered massively this season it is very unlikely it will not do so another year.

**PIPING REQUIRED FOR HEATING CONSERVATORY** (T. P. R.).—To heat 2430 cubic feet of air to a temperature of 45° to 50° in winter you will require 200 feet superficial of heated surface, or 266 feet of 3-inch piping. We have made allowance for your house being in an exposed situation.

**PLANTS NOT FLOWERING** (Mark Manchester).—Not knowing where they are, nor what they are, nor how you treat them, we can give no certain advice. Want of sufficient light is the probable cause of the deficiency.

**VINE LEAVES BROWN** (A. B. C., Doncaster).—If you water the roots abundantly you will prevent the leaves becoming brown.

**CELERY LEAVES GRUB-EATEN** (Biceps).—The grubs are the larvae of a saw-fly, *Tephritis onopordinis*. A drawing and description are in the first volume of this Journal. There is no remedy but picking off the blotched leaves and burning them before the grubs escape.

**WATERING** (F. J.).—The quantity of water to be applied in dry weather must be regulated by the soil and crop. No arbitrary rule can be laid down. Guano water is best applied in a clear state.

**LIME** (H. J. B.).—The common lime used by bricklayers is that applied. Mixed with the top 2 inches of the soil and sprinkled over the surface it will exterminate the slugs. Repeat the application if necessary; fresh caustic lime must be employed.

**FUNGI** (J. A.).—One of the forms of *Agaricus campestris*, and doubtless good for food. (J. M.).—The Vine leaves are covered with the black smut, which is known under the name of Fumago, and consists of *Cladosporium herbarum* and other moulds. There must be something wrong in the management of your house, or the leaves could not be in such a state.

**INSECTS ON CAMELLIA** (S. C. Oakes).—The white matter on the Camellia leaves is the exudation from the bodies of the females of a rare species of scale insect, *Coccus Camelliae*.—I. O. W.

**NAME OF FRUIT** (James Radford).—Alfriston.

**NAMES OF PLANTS** (J. H.).—*Lilium pyramicum*, a native of the Pyrenees. It is noticed in Parkinson's "Paradise" under the name of *Martagon pomponianum*. (W. D. H.).—The Gum Cistus, *Cistus ladaniferus*. A native of Spain, and cultivated by Tradescant in his garden at Lambeth more than two centuries since.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### MANAGEMENT OF CHICKENS.—No. 2.

ALL the while the present hot weather lasts the chickens cannot have too much shade, and their food cannot be too fresh and sweet. Shade is important for all breeds. Cochins, and Dorkings, and Hamburgs are all the better for shade. With white varieties to keep them white it is essential. Those who only have bare and enclosed runs will keep them cool and fresh by watering them every two or three nights. It is quite surprising to find how the chickens are benefited by that practice.

We again urge that the yards should now be thinned, and all the inferior specimens removed to make room for the others. Cochins with scanty leg-feathering, or Cochins with heavy hocks and inside leg-feathering, can never be of much use. Hamburgs with white legs, Houdans and Dorkings with bad claws, single-combed and clean-legged Silkies, and all birds with such serious imperfections can never be up to the mark, and should be at once done away with. We are quite positive that many, too many, inferior and perfectly useless birds are annually allowed to live, and then perhaps sold for 3s. or 4s. each, and in their turn used by inexperienced purchasers as breeding stock, and hence come the swarms of perfect rubbish which we find advertised in cheap advertisements. These birds will, we fear, in time half ruin the fancy; and we often think the selling classes are in another way equally as unprofitable and damaging,

for to every good bird sold in a sale class we should think we may safely reckon there are ten bad ones. Weed-out, we say then, now the wasters—roast them, boil them, pie them, only get rid of them, and we dare say—we feel certain—the remainder will be doubly as valuable as if all had been allowed to live.

It is important now, too, to see to the roosting places of the chickens, for many will soon be changing their feathers, and overcrowding or bad housing may spoil the new plumage. Those which are allowed still to sleep in their coops—and we fully approve of the plan—should be carefully watched, for often a dozen or two will try and crowd into a coop which can only hold half the number. We like our chickens to sleep in these coops, when there is no fear of dogs or foxes disturbing them, as long as possible, for by moving these small tenements every day to a fresh place the ground is well manured, and the chickens are always in clean feather. Of course, only those who have a field or some such run can do this; but those who have the ordinary fixed houses merely for the chickens to roost in must keep such very clean, for just at this time many birds in one building, especially where any matter is allowed to remain and decompose, will fill the place with injurious and bad air. Boards under the perches which can be scraped every morning some use, but we like ourselves nothing so well as a bed of clean dust and sand, for it is so easily raked over with a finely-toothed rake, and the dust acts as a powerful deodoriser and removes every particle of smell. Some mix lime dust with this sand or road grit, but we do not approve of this where the birds can have access to the houses in the daytime, for they will often dust in it, and we are sure the lime injures the feathers and spoils some of the bloom and gloss.

Many who have a small plot of garden for flowers or vegetables, and also go in for chickens in quite an amateur way, are afraid of letting their brood loose in the garden, for a lettuce bed or young turnips or beetroots would soon cease to exist under the mothers' claws and the chickens' mouths. We should recommend them to have a few yards of galvanised wire and bend it loosely round the rhubarb bed, or when the strawberries are over round the plants there, or the artichokes and seakale, for they will now do no harm there; and we have seen a young brood of three or four weeks old thrive in a surprising manner when so wired-in, for they obtain shade, and the loose straws and refuse which are generally found on such beds afford a capital opportunity for scratching, and plenty of woodlice and flies and insects are being repeatedly turned up.

All will probably have by now cockerels and pullets large enough to separate. If only two runs can be spared for this purpose let the birds be changed in them frequently. The cockerels can have one run for a fortnight, and then the pullets can go there and the cockerels come to the "ladies' enclosure." The greater distance these runs are apart the better. We do not care for them being side by side and only divided by wire fencing. When, however, this cannot be remedied, let there be close hurdles or wattle fencing for about 3 feet high, such as we described in the "Basse-Cour" of Mr. T. C. Burnell of Michel-dever, for we do not desire the birds seeing each other through the wire.

The larger birds will not now want feeding so frequently. Birds four and five months old can well do now with three meals a-day, and three-months-old birds well with four. We again recommend at this period of their growth an abundance of vegetable food and not too much water. Bone dust some use very much, and we were much surprised to hear this last week from one of two celebrated fanciers how extensively they use it. We have never tried it ourselves, and yet we have sent to the exhibition pen a goodly number of winning chickens; but those who do care to try it, or who are in the habit of doing so, must see they get a useful sample, for we have seen some sent out which was simply perfect rubbish, and which would do about as much good as sawdust. Bones from the house, or, where the establishment is not large enough to supply any quantity, from the butcher, smashed-up and crushed on a wooden block by a heavy hammer, would prove of value we can well imagine; and that is the sort of bone-food, used, of course, in moderation and with judgment, which we should recommend and feel inclined to use ourselves.—W.

### DONCASTER POULTRY SHOW.

THE annual Show of the Doncaster Agricultural Society was held on June 28th, 29th, and 30th in Netherhall Park. The three days is sadly against the entries. The list of prizes needs revising, no Variety class being provided, while two classes are given for Dorkings.

Game headed the list, and a cup being given the quality was very good. In single cocks first was a grand coloured Brown Red, but rather excited, and evidently not used to the show pen; second a tall likely bird, but a little overshadowed; third a fair bird. Black Reds were mostly out of condition. First a grand moulded bird, with a fair hen; second a good-coloured cock, but a little high in tail. Duckwings not as good. The

first cock was very good, but the hen dark in eyes; second and third better hens, but cocks odd-eyed. Brown Reds very good, first and cup going to a perfect pair in fine order. Any other variety were all Piles. First the best cock we have ever seen; the hen was pale in leg, but these left no chance for any other. Second a fair pen; but third bad—old-fashioned with blotched legs and feet, but the only pen available. Silver-Grey *Dorkings* very good, as also Dark; the second largest, but cock lop-combed. The cup for the Hamburgs and larger varieties was given to *Spanish*, these being uncommonly good. In *Cochins* Buffs were first, Whites second, and Partridge third. *Brahmas*, Light, no third was given, but the two winners were fair pens. Dark very good. *Hamburgs*, Silver-spangles were good in most cases; the second-prize pen better in some respects than the third, but cock a little tilted in comb. Others very good, especially the first Silver-pencils. *Bantams*, Red, a large class. First-and-cup a grand pen of Black Reds; second Brown Reds, very good in colour; third old Black Reds, but the hen faded. In the Variety class was one very good pair of Piles; second of that colour were stylish; third Duckwings, a little faded. *Crève-Coeurs* and chickens a failure. In *Ducks* only the variety of any note, and some of the money previously withheld was awarded extra here. *Turkeys* were a grand class.

*Pigeons* were very badly provided for, and were shown in pairs, though the winners in each class were such as would come to the surface in more severe competition.

**POULTRY.**—*GAME.*—*Cock*.—1, H. E. Martin. 2, Holmes & Destner. 3, C. W. Brierley. *Black-breasted Reds*.—1, C. W. Brierley. 2, H. C. & W. J. Mason. 3, J. Mason. *Brown and other Reds, except Black-breasted.*—Cup and 3, C. W. Brierley. 2, Sales & Bentley. *Duckwings and other Greys and Blues.*—1, H. C. & W. J. Mason. 2, Holmes & Destner. 3, J. A. & H. H. Staveley. *Any other variety.*—1, H. C. & W. J. Mason. 2, J. F. Walker. 3, R. Walker. *DORKINGS.*—*Silver-Grey.*—1, J. Walker. 2 and 3, W. Roe. *Any variety.*—1, W. Arkwright. 2, J. Walker. 3, W. Roe. *SPANISH.*—Cup, H. Beldon. 2, J. Powell. 3, W. Rowbottom. *COCHINS.*—1, J. Walker. 2, H. Beldon. 3, A. Bamford. *BRAHMAS.*—*Light.*—1, J. F. Smith. 2, H. Beldon. *Dark.*—1 and 2, T. F. Ansell. 3, J. F. Smith. *HAMBURGS.*—*Silver-spangled.*—1, Beldon. 2, H. C. & W. J. Mason. 3, Holmes & Destner. *Silver-pencilled.*—1, 2, and 3, H. Beldon. *Golden-spangled.*—1, Holmes & Destner. 2 and 3, H. Beldon. *POLANDS.*—1 and 2, H. Beldon. *BANTAMS.*—*Black-breasted and other Reds.*—Cup and 2, W. F. Entwistle. 3, A. S. Sugden. *Game, any variety.*—1, Bellingham & Gill. 2, W. F. Entwistle. 3, R. Newbitt. *ANY VARIETY.*—*Chickens.*—1, J. C. & H. Elviss. *GUINEA FOWLS.*—1, F. Clater. 2, E. Snell. 3, W. H. Garforth. *TURKEYS.*—1, W. H. Garforth. 2, J. Walker. 3, G. Mangles. *who, B. H. Brookbank. Ducks.*—*Aylesbury.*—1, J. Walker. 2, W. Stonehouse. *Rouen.*—1, J. Walker. 2, W. H. Garforth. 3, *Ducks.*—*Any other variety.*—1 and 2, A. & W. H. Silvester. Extra 1, J. Walker. *GEES.*—1, W. H. Garforth. 2, J. Walker. 3, J. White. *SELLING CLASS.*—1, J. F. Walton. 2, P. Powell. 3, R. Newbitt.

**PIGEONS.**—*CARRIERS.*—1, J. Walker. 2, J. E. Crofts. *JACOBINS.*—1, J. E. Crofts. 2, J. Walker. *ANTWERPS.*—1 and 2, W. F. Entwistle. *ANY OTHER VARIETY.*—1, J. E. Crofts. 2, J. Walker. A. & W. H. Silvester. 3, J. G. Knowles. A. & W. H. Silvester. *who, E. Crofts.*—1 and 2, W. H. Garforth. 3, J. F. Loversidge. 2, H. Yardley. *SELLING CLASS.*—1 and 2, J. E. Crofts.

**JUDGE.**—Mr. E. Hutton, Pudsey.

## PORTSMOUTH POULTRY AND PIGEON SHOW.

### PART 2.

HAVING looked through the 417 pens of poultry I next come to the 240 pens of *Pigeons*. The order in which they are placed in the catalogue is new, but hardly to be approved, for instead of the high-class varieties being put first—viz., Carriers, Pouters, and Tumblers, we have watted birds of all descriptions, the rule of nose being the guide, then Tumblers, and last of all—ah! name it not in Scotland—come Pouters. This is really too bad, for Pouters ought to be first of all rather than last of all.

**Carriers.**—Fulton and Maynard carried almost all before them in all colours save in Blues of 1876. An odd-looking mottled bird of Mr. Ord's won in Carriers any other colour. Dragons, far too much honoured by being placed next to the Carriers (depend upon it the Committee were all long-nosed men!), showed some good birds in all classes, but the Judge was very sparing of his highly commendeds and very highly commendeds. The White class was particularly strong, and I was glad to see it, for a White Dragon is one of the most elegant of Pigeons, and the two winning White hens were singularly elegant birds. In the Any other colour a good Red cock first, but the second not sound in colour as to tail, that great difficulty. Among the hens of this class a good Yellow of Mr. Baker's first, and Red, sound in tail, second. Of the Dragons of 1876 a good Silver second, and a highly commended Chequer. In a Show of 240 Pigeons there were over fifty Dragons. Truly this is a popular class in England, showing, I think, that elegance and a naturally-bred and good flying Pigeon has great attractions; for the Dragon is the naturally-bred Carrier, and I expect in very old days our best heavier Dragons would have been called Carriers.

**Tumblers** few, but very good. Cocks, a capital Kite of Mr. Baker's second. Hens, a Red Mottle second; a good Almond first.

Passing by Barbs and Fantails as deserving, I come to the Jacobins. First, a Red of Mr. Baker's, with the sides of the chain quite closing in whatever position the bird stood, and the hood neat and cap-like; second a Black, also Mr. Baker's, very good, with great length of chain; third Yellow and good in colour. Nos. 588 and 589 Red, good in colour. All the prize birds were somewhat large, and if they are to have length of feather in chain, &c., they must be large.

Pouters were not strong in numbers. Baker and Fulton won in cocks. In hens the same owners, and Mrs. Ladd third with an elegant-shaped, but not large-enough cropped bird.

In Any other variety, cocks, a grand Black Trumpeter first; in hens Mr. Baker won all, his White Owl being the best.

There was in a permanent building on the ground used, as I imagine, for a Drill Hall in inclement weather, a capital collection of English *Cage Birds*, and as we may well imagine at Portsmouth, a splendid lot of foreign birds. The Canaries almost smelt of pepper, and Goldsmith's line now bears a meaning and a signification he never intended—

"Who peppers the highest is surest to please."

Ecstatic spinsters and dowagers hovered in delight round the cages whether of English or foreign birds, according to their fancy, be that fancy turned to sprightly Norwich, neat Lizard, or high-shouldered Belgians, in the catalogue spelled Belgians; indeed, it was the worst-spelt catalogue I ever had in my hand, names of owners spelled incorrectly, and owners' names given to their dogs. Dun spelled "Dunn," Dragon "Dragon," Coppy printed "Poppy," &c. The printer's reader is clearly no fancier.

With a parting look at all sorts of foreign birds I go next to the *Rabbits*. First come the strictly fancy animals, the Lops, the best contrasting colours in the front—viz., the Black-and-white. Dear pretty "Bunnies," you carry my mind back to days when I kept you—days when my pockets were distended with marbles and tops. Now men and women delight in Rabbits—yea, as I see, soldiers and ladies. The excellency of the Lops must be apparent, by the fact that a buck (Mrs. Dressing's), with ears 22½ inches by 5½, got only a very highly commended. Getting away from Lops come the foreign varieties, one a huge giant weighing 16½ lbs.; then the small, neat, clean Dutch, and quaker-like Silver-Greys, Belgian Hare, and Himalayas, which look as if they had been indulging largely in taking black snuff.

In the same tent with the Rabbits are the *Cats*, thirty-three pens, naturally enough nearly all owned by ladies. No Tortoiseshell Tom was there, and not more than one female of that colour worthy of the name. Tabbies were better, among them a terrible cat and her three kittens, all of whom were double-jointed and had a hundred claws. Oh, dreadful kittens! If the little boy in *Punch* exclaimed with a rueful face of an ordinary kitten after some scratching experiences, "Mamma, has tittens pins in their toes?" what would he have said of you, you dreadful kittens? Of other and more proper kittens there was a nice entry, among them a Blue Tabby (869), and a Silver Tabby (865), which pleased me greatly. There was, too, another rather dreadful kitten having twenty-six claws—i.e., eight more than it ought to have, and some long-haired Cats always thin from their life-long labour of keeping their long hairs clean, for Fuss in health will always be clean at whatever cost of trouble and saliva.

Next to the Cats come *Guinea Pigs*. Well, and why not? they please the boys and girls, and with a prize will be doubly pleasing. Guinea Pigs have got up in the world, and now, like St. Bernard Dogs, boast of two varieties, the rough and the smooth, the former called Abyssinian. They are in colour like the English, rich tortoiseshell, and the growth of their hair is very curious, for not only is it rough, but it grows in a series of rosettes, not very unlike the rose in a Jacobin Pigeon or a "feather" in the coat of a horse. The little animals seem to carry targets on their sides to be shot at, with a prize for whoever hits the bull's-eye. These little Abyssinians are quaint-looking rather than pretty.

Across to another and larger tent containing the *Dogs*. Although the attendance, especially at the early part of the day, was very small, yet such is an Englishman's love for a dog that everyone, I think, found his way into this tent. There were a little over two hundred animals exhibited, and the strength of the Exhibition was in the Newfoundlands, which were indeed well worth seeing. Next to them in excellence were the Blenheim Spaniels. The Fox Terriers seem to me to be growing more and more Beagle-like; and some dogs entered as White English Terriers were simply Bull Terriers. The Wire-haired Terriers were numerous, and No. 1000 was no doubt the real thing; a great Pigeon fancier, strange to say, was his owner (Mr. Maynard), and another great Pigeon exhibitor took first in Black and Tan Terriers (Mr. Fulton). Know a Pigeon know a dog, it seems.

Specially to be spoken of was the life-saving contest. A dummy sailor was made which at a distance a man even might mistake for another man. This dummy was thrown from a boat moored 200 yards from shore, the competing dogs were on land, and each in turn let loose when the dummy was thrown overboard. I made the acquaintance of the hero of the first day—viz., "Monarch," a black Newfoundland of noble presence, who swam direct to the dummy, seized it, and at once brought it to the shore; this done in about a minute and a half. This beautiful dog is owned by Mr. T. Loader Browne of Chard. He was second at Birmingham when about a year old. He measures 21 inches round the head in front of his eyes. On the second day a Retriever, I believe, was first and a Newfoundland second.



This life-saving contest strikes me as a most meritorious scheme, and deserves strong support. At Portsmouth are thousands of arms made on purpose by man to destroy man's life; and at Portsmouth the wiser dog showed his power and desire of saving man's life. Surely such a contest on a large scale might be carried on at various seaports and towns. Brighton abounds with dogs, people, and money, why not have such a contest there? Rinking is too hot for summer, while the very sight of the dogs in the water is cooling, to say nothing of the grand purpose for which the contest takes place. Train Pigeons by all means to carry our letters, if a day of terrible need should come, but train dogs also to save our lives. The instinct is in the noble animals, it only wants cultivating.—WILTSHIRE RECTOR.

### TITLARK OR WOODLARK.

In answer to "T. H. Y." the Titlark, which is 5½ inches in length, is the smallest of the Lark tribes, being half an inch shorter than the Woodlark, which more resembles the Skylark in figure and appearance although less in size. The Titlark has two bright bars upon the wings, the throat is pale and not speckled, and above each eye there is a bright stripe. The beak is very pointed, the upper mandible being dark brown, and the lower one whitish; the nails of the back toes are crooked, and the tail narrow and rather forked. The Woodlark's beak is black above and brown beneath, merging into flesh colour towards the tip of it. The head feathers, which are longish, give a broad appearance to the bird's head, and somewhat resemble a crest when the bird is under excitement. Around the head from eye to eye appears a whitish-grey mark, and the feathers about the cheeks, throat, neck, and breast are whitish-yellow with black-brown spots. The coverts of the wings dark brown, with a pale reddish-brown margin. At the joint of the wing, the shoulder, and the four first coverts there is a white spot. Tail feathers broad, black-brown, the first and second with a reddish-white conical spot, and a white tip; the two middle feathers entirely greyish-brown.

Titlarks so change their places of resort that to gain a knowledge of the various kinds of food they pick up would puzzle a Philadelphia lawyer. Their places of resort are woods that abut upon arable land, with gardens and meadows adjacent thereto; places, also, where timber has been felled and rooted up. In or about the beginning of autumn they visit fields planted with cabbage and other vegetables; somewhat later on they resort to eat fields. As we cannot, therefore, name "all the things" they eat, we will state a few—for instance, gnats, grasshoppers, flies, caterpillars, small butterflies, and when in confinement, German paste, crushed hempseed, and unflavoured curds. It is better to frequently vary their food, for they are somewhat delicately constituted, and if in confinement they are not at once supplied with a nutritious diet, such as mealworms and ants' eggs, they will quickly show signs of declining health. When they are first taken it is somewhat difficult to treat and accustom them to food. If anything will tempt them it will be mealworms and ants' eggs. Do not give Canary seed to your Titlarks. We cannot help here recording the fact that at an exhibition at Birmingham some two or three years back, the only food a Thrush had in its food-trough was Canary seed! and we could not help fancying that the Thrush appeared much puzzled whilst surveying the strange food supplied to him.—GEORGE J. BARNSEY.

### SYSTEMS OF MANAGEMENT.—No. 4.

AFTER advertizing to swarming, nading, and eking, we now come to supering.

Supering is a mode of enlargement well understood by all classes of apiarians, and when successfully done gives satisfaction, for both the bee-farmer and the amateur feel enriched by the possession of some well-filled supers. It is an ancient practice, and was partially adopted long before my day. What I mean by partial adoption is this, that those who used supers tried other ways of enlarging hives, and wisely so, for supering in many cases does not answer at all. All hives that admit of enlargement by supers only are faulty and imperfect.

1, Supering on the non-swarming principle consists in placing supers on hives as soon as they are full of bees, and when the supers are filled they are taken off and empty supers are put on in their places. This system is open to many objections, two of which may be noted here—namely, the uncertainty of success and the risk of losing swarms.

2, Supering on the swarming principle is resorted to in a great variety of ways. Sometimes small supers are obtained from hives before swarming—that is to say, as soon as the supers are full they are taken off, and the hives are swarmed at once artificially. The swarms are put into 16-inch hives, which in fine weather they fill in about three weeks or a month, when they should be supered. The mother hives, too, may be ready to fill supers by the end of three weeks from the time of swarming if no

second swarms be taken from them. On both mother and swarm hives supering may be continued till the end of the season without much risk of losing swarms. We have obtained 30 lbs. of super honey from swarms put into 18-inch hives, which hives hold and yield more honey than the 16-inch hives. In 1863 Mr. George Fox had two supers above 100 lbs. each from two non-swarmers, and one super of 90 lbs. from a swarm hived late in June. Hives on which supers have been filled are too full of honey for stocks, and yield, according to size, from 25 lbs. to 50 lbs. of run honey. We take, and advise others to take, the honey from heavy hives. If stocks be wanted, the bees from these hives could be driven into empty hives and fed with sugar syrup. Both honey and better stocks are thus obtained.

In all cases of supering, pieces of guide comb (white drone comb) should be used to entice the bees to enter and commence working at once. These pieces of guide comb should be cemented to the crowns of the supers, and small wooden ladders about as thick as a child's finger should be fixed between the crowns of the hives and crowns of the supers to enable the bees to ascend and begin at the top.

It should be borne in mind by all apiarians that bees like to swarm every year, and in hot seasons first swarms are prone to send off virgin swarms; it is therefore desirable to prevent hives with supers on them from becoming too full of bees. In the spring and early summer months bees multiply rapidly, and may cluster at their doors before supers on their hives are quite full. We never like to see bees clustering and wasting their time on the outsides of their hives. By raising the hives 2 or 3 inches by ekes, clustering is prevented and more work is done inside. When the season is nearly over and supers nearly filled it may be desirable to avoid eking, that the bees may well fill and finish their supers.

Last autumn something was said in this Journal about the American practice of supering with small boxes. Boxes containing 4 or 5 lbs. only of comb are there more readily sold than larger boxes; and the Rev. Mr. Blyth suggested two years ago the desirability of offering prizes for the greatest weight of super honey from a hive under any system of management. I then resolved to try what could be done this year in filling supers from a stock hive and its swarms. I marked my largest and best hive for this experiment, but, unfortunately, the queen of this hive died in autumn or winter, and the whole affair came to grief. This season, too, has been unusually unfavourable for bees. Till the 17th of June bees have been unable to find food enough for themselves here. On the 18th day of this month the wind veered round to the south (from the north), and the bees began to work in earnest. I weighed two of my hives on Monday morning the 19th, and again on Tuesday night the 20th. One hive gained 14 lbs. and the other 13 lbs. in the two days. To-day the wind has been high, and a thunderstorm has stopped outdoor work. In this contemplated experiment or effort to fill a number of small boxes with honeycomb my plan is to follow the usual mode of management till the end of the season. For the sake of clearness let us take a strong stock to begin with. The first swarm from it would be put into a 20-inch hive containing about 5000 cubic inches of space; and the second swarm or cast would be put into an 18-inch hive containing upwards of 3500 cubic inches of space. At the end of three weeks from the time of first swarming the bees would be turned out of the old stock into another 18-inch hive. Thus we should have two or three large swarms at work in large hives, and the parent hive with its honey put aside till autumn. Swarms in large hives capable of producing from 100 lbs. to 150 lbs. each would work in a satisfactory manner as long as weather and store-room would let them. "How, then, could you get supers?" That is the question and point we are coming to. In such swarm hives we find at the end of every honey season large stores of honey, and the great bulk of it stored in pure virgin comb. In taking the honey from our hives in the autumn we put the discoloured combs in earthenware or milk pan for running, and the pure virgin honeycomb is placed on dishes and in clean empty hives. Sometimes we have cut the discoloured combs from the centres of the hives and sold the virgin comb in them in its natural state; but our usual mode is to empty every honey hive and put aside the virgin honeycomb for sale at 1s. 6d. per lb., never less than 1s. 3d. per lb., and we can sell it thus as readily and at as high a price as in supers, but in supers it is more easily carried and looks better.

Now let us come to the projected experiment or supering process. The bees, of course, are driven from the honey hives into empty hives, and all the white pure combs, both full and empty, go to fill small boxes. The boxes with holes in their bottoms would be filled as well as human hands could fill them with the combs as they are taken from their hives, leaving room enough between the combs for the bees to work, for the combs thus placed would require refixing, repairing, and some cells refilling by workmen more clever than bee-masters. Supers thus filled and retouched and completed are both seemly and saleable. "But why use combs that are empty or partially filled in this artificial process?" Because it is desirable to use up every bit



of white comb and fill as many supers as possible, and because the bees make a better finish with combs unsealed than they do with sealed combs. "But how can they fill and finish after the honey season is over?" As soon as all the combs are partially fixed in boxes their lids should be nailed or screwed on, and then placed on the tops of the empty hives containing the swarms. By giving the honey of the discoloured combs to the bees they would soon commence carrying it all into the supers. Thus all the honey gathered into the large hives may be transferred to either large or small supers. "All this is very artificial, and might disqualify for competition." It is artificial, but we are in search of a system that will give the greatest results in super honey for market or home use, and experience has taught that more honeycomb may be obtained from large hives managed on the swarming principle without the complication of supers than from smaller hives supered throughout the season.

Like the Rev. Mr. Blyth we are on our way for the largest amount of pure honeycomb, and if any of our readers who have hitherto been living in the land of hope will condescend to join us in our march they will be conducted across the frontiers into a land of success.—A. PETTIGREW.

### OUR LETTER BOX.

**CHICKENS DYING SUDDENLY (E. L. P.).**—Have your chickens the run of the lawn, or only the space enclosed by the coop? If only the latter they will die as they get older, and they have neither room nor food enough. If they have been kept in let them out; the hen need not go with them, and they will do no damage. There is nothing wrong in your feeding if we except the rice. As they were probably all together, lightning if it killed any would have killed all. We believe if they have their liberty there will be no return of the mortality.

**EGGS BROKEN IN LAYING (Marks, Manchester).**—As they are shell-less it is evident that the egg organs are disordered. The hens are overfed. Give them less food both in quantity and quality. Let them have bricklayer's rubbish, and give each a dessert-spoonful of castor oil.

**CANARIES FAILING TO BREED (Inquirer, New Ross).**—If your Canaries have been properly matched we see no reason why they should not have bred before this. There has been some defect in the mode of treatment to a certainty. There is little chance of the birds breeding this season, although you can further exercise your patience by keeping the pairs separated in the breeding compartments until the end of this month. If the birds have not moulted out of their proper season (the autumn) they should have bred; but if they have been kept in an artificial temperature, occasionally casting or throwing off odd feathers, they have not been in condition to breed. In the absence of further knowledge as to your general treatment of the birds we cannot assist you as to how to proceed in the future, although we should have been pleased to have given you assistance.

**MOOR HENS, OTHERWISE WATER HENS (E. B. M.).**—Young Water Hens leave the nest to follow their mother soon after they are hatched, and no doubt they feed upon the same kind of food as their parents, which consists of worms, insects, portions of aquatic plants, mollusks, and the smallest of fishes.

**EXTRA HIVE ROOM (—).**—No doubt bees will frequently work downwards through a hole such as you describe, but we have never found it answer. We prefer the open skep, or better still the use of supers, where free access through wide and extensive openings is afforded to the bees of a stock. Our friend "B. & W." wrote something on this subject not very long ago in this Journal. We refer you to his article.

**BEES SWARMING IRREGULARLY (Jane M.).**—Irregularities in swarming such as you describe are not uncommon with bees. You have treated the two second swarms which issued the same day quite right. We should have done exactly as you have done. Probably the queen of the one which returned was imperfect, or else too quick in her movements for the bees to find where she alighted. We ourselves once picked up a queen which the bees had failed to find.

**NADIRING (Amateur).**—If both honey and stocks be wanted from early swarms, hives or nadirs may be placed beneath them as soon as their hives are filled with combs. The bees readily build combs in the bottom hives and carry most of the honey into the upper ones. The same thing may be done with stocks that have not become ripe for swarming before the end of June or thereabouts. When the topmost hives are removed for honey their bees are driven into the nadirs. As bees like to swarm, and instinctively prepare for swarming by building drone combs before swarming, it has been found that they very often build too much drone combs in nadirs, especially those that have not swarmed, and therefore eking and supering are preferable in most cases to nadiring. In all cases of nadiring the bees should be made to out and in by one door in the bottom hive.

**ARTIFICIAL POLLEN (J. F.).**—We have never tried this pollen, but it seems to meet with decided favour at the hands of many able bee-keepers who have tried it. We do not quite understand your question. Do you wish to give each hive a separate dole of this pollen? If you wish to supply it *en masse* you cannot do better than others do. Take a common straw skep, fill it with fine shavings, and the pollen mixed with it; and put all under an open dry shed, close at hand. Try Brown & Polson, and report your experience.

**DRIVING BEES (Wm. Talbot).**—You will do well to turn the bees out of your old hive and put them into a larger one, and the sooner you do it the better; indeed, it should have been done on the 20th of June before the young queen in the hive began to lay. You will probably find brood in the combs, which will be lost, but this cannot be prevented if you drive the bees now into a larger hive. Drive the bees first into a small hive, and then shake them into the larger one. If you have not a small hive to fit, roll some haybands or towelling cloths round the mouth of the old hive, so that the larger hive may rest on them and not slip over the sides of the old one. All that you want is a little more courage. In cases like yours we have taken our coat off and tied it round the mouths of hives to make them fit in artificial swarming.

**EXCESS OF SWARMS (Thomas Meatlin).**—The Isle of Wight is a good place for bees. From a very heavy hive you had a natural swarm on the 18th of May and an artificial one on the 26th of June. You have put a super on the old one to prevent it from swarming again, and you intend to super the first swarm by the end of this month. You should not have attempted to take a second on the 23rd and 26th of June. On the 23rd the swarms went back to the parent hive because the queen was left behind, and on the 26th you took the queen with the swarm and thus made the old hive queenless, and if the young queen which you took with the swarm has not begun to lay the old hive is queenless still. But probably she had begun to lay before her removal, and the bees may be now rearing another. It would have been better to have turned out all the bees from old one at the time and taken the honey; thus you would have obtained two good swarms and hive full of honey. Bear in mind that a second swarm can be taken at one time only—namely, when there are more than one queen in the hive, or, in other words, at the piping season. You will not get a super filled on the old hive this year, so you may remove it and put it on the first swarm. Examine the combs of the old hive at once to see if they contain any brood, and if the cells are empty your better plan will be to drive all the bees out and unite them to the second swarm. Beginners run great risks in attempting to take second swarms artificially; not so with first swarms.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
	Baromet- er at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
1876. June and July.	Inches.	deg.	deg.	N.	deg.	deg.	deg.	deg.	In.		
We. 23	30.122	63.8	61.0	N.	65.1	83.2	56.8	124.2	56.1		
Th. 23	29.979	64.3	58.3	N.	66.0	73.1	54.1	121.1	52.3		
Fri. 30	29.966	61.2	54.9	N.W.	64.5	72.3	49.3	122.9	46.6		
Sat. 1	29.952	67.5	62.2	S.W.	65.0	72.6	58.4	100.2	57.4		
Sun. 2	30.006	66.9	62.2	S.W.	63.5	80.1	58.6	124.2	56.1		
Mo. 3	30.103	68.0	60.4	N.W.	64.6	78.5	60.4	123.4	59.4		
Tu. 4	30.068	67.7	61.6	S.W.	65.3	74.9	57.7	107.8	56.2		
Means.	30.027	65.5	63.1		64.9	76.4	56.5	119.1	54.9		

### REMARKS.

28th.—Thick fog all night and till 9 A.M., then very fine till 5 P.M., when it became dull and cloudy; thunder at 6.10 and 6.35, and storm-like during the remainder of the day.

29th.—Very fine all day, but looking storm-like in the evening, and very much cooler than it was yesterday.

30th.—Fine, but at times rather cloudy and cool; slight rain between 9 P.M. and midnight.

July 1st.—Dull and cloudy all the forenoon, but very fine evening and night.

2nd.—Rather close and warm all day, though there was but little sun.

3rd.—Dull morning; very storm-like about noon, but fine afternoon and very fine evening and night.

4th.—Dull all day, at times particularly so, but the evening rather more bright.

Temperature very nearly the same as last week, only a few drops of rain, but much cloud. Sun very powerful on Sunday the 2nd.—G. J. SYMONS.

### COVENT GARDEN MARKET.—JULY 5.

OUTDOOR fruit is now putting in a good appearance; in fact, the Strawberries grown near home are now at their height, and are being followed by a large supply out of Kent and Essex. Cherries bid fair to be light crops, while Raspberries show want of rain. Hothouse fruit is quite equal to the demand owing to the moderate amount of business now doing. Prices generally lower.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	5	0	Mulberries.....	lb.	0	0	0
Apricots.....	box	1	6	4	Nectarines.....	dozen	6	0	21
Cherries.....	lb.	0	6	1	Oranges.....	3/100	6	0	12
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	6	0	80
Currants.....	1 sieve	0	0	0	Pears, kitchen.....	dozen	0	0	0
Black.....	do.	0	0	0	Pears, dessert.....	dozen	0	0	0
Figs.....	dozen	9	0	15	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	0	0	Plums.....	1 sieve	0	0	0
Gobs.....	lb.	0	0	0	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	3	0	Raspberries.....	lb.	0	6	1
Grapes, hothouse.....	lb.	2	0	6	Strawberries.....	lb.	0	4	2
Lemons.....	3/100	6	0	12	Walnuts.....	bushel	0	0	0
Melons.....	each	2	0	8	ditto.....	3/100	0	0	0

### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	4	0	6	Leeks.....	bunch	1	0	0
Asparagus.....	3/100	1	6	6	Mushrooms.....	pottle	1	0	2
French.....	3/100	1	6	6	Mustard & Cress.....	punnet	0	2	0
Beans, Kidney.....	3/100	0	6	1	Onions.....	bushel	3	0	5
Beet, Red.....	dozen	1	6	8	Pickling.....	quart	0	0	0
Broccoli.....	bundle	0	9	1	Parsley.....	doz. bunches	2	0	4
Brussels Sprouts.....	dozen	0	0	0	Parsnips.....	dozen	0	0	0
Cabbage.....	1 sieve	0	1	2	Peas.....	quart	0	9	1
Carrots.....	bunch	0	4	8	Potatoes.....	bushel	2	6	8
Capicums.....	3/100	1	6	2	Kidney.....	do.	0	8	0
Cauliflower.....	dozen	1	6	2	New.....	lb.	0	0	0
Celery.....	dozen	1	6	2	Radishes.....	doz. bunches	1	0	1
Coleworts.....	doz. bunches	2	0	4	Rhubarb.....	bundle	0	8	0
Cucumbers.....	each	0	4	1	Salsify.....	bundle	0	9	1
Endive.....	dozen	1	0	2	Scorzonera.....	bundle	1	0	0
Fennel.....	bunch	0	8	0	Seakale.....	basket	0	0	0
Garlic.....	lb.	0	6	8	Shallots.....	lb.	0	8	0
Herbs.....	bushel	0	8	0	Spinach.....	bushel	1	6	2
Horseradish.....	bundle	4	0	0	Tomatoes.....	dozen	1	6	3
Lettuce.....	dozen	0	6	1	Turnips.....	bunch	0	4	6
French Cabbage.....	do.	0	0	0	Vegetable Marrows.....	do.	0	2	0

## WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 13—19, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
13	Th	Hereford, Clifton, and Highbate Shows.	76.1	61.4	63.7	4	0	8	10	10	45	11	20	23	5	29
14	F	Queckett (Microscopical) Club at 8 P.M.	74.5	50.5	62.5	4	2	8	10	10	57	0	55	6	5	36
15	S		76.6	50.7	63.7	4	3	8	9	11	14	2	1	24	5	42
16	SUN	5 SUNDAY AFTER TRINITY.	76.0	50.1	63.0	4	4	8	8	11	37	3	29	25	5	47
17	M		74.3	51.3	62.8	4	5	8	7	morn.		4	53	26	5	53
18	Tu	Leek and Kilmarock Rose Shows.	74.7	50.2	62.5	4	6	8	5	0	12	6	21	27	5	57
19	W	Royal Horticultural Society's Second Summer Show.	73.2	49.9	61.1	4	8	8	4	1	5	7	27	28	6	2

From observations taken near London during forty-three years, the average day temperature of the week is 74.9°; and its night temperature 50.6°.

## AURICULAS.



NO account should your correspondent "J. T. D. L." put his trust in chance-saved seed for raising florist Auriculas. In the first place, the quality would be dismally obscure in comparison with that which may be obtained from known and chosen parentage on both sides. Even the quantity would be uncertain and small. The Auricula is flowered in a quiet though free air. Bees about it are an abomination, and every in-

sect trespasser is prosecuted with the utmost rigour, so that the agencies of wind and winged insects in fertilisation are withheld from choice Auricula blooms. Seed is therefore best and most abundantly obtained from studied crossing, and the florist is very thankful for the rich opportunities he has in plants so secured from intrusion.

The pleasures of raising seedlings are manifold. The crowning one, of course, is the final result; but the choice of parentage, the careful fertilisation itself, the watching of the swelling pods, the harvest of the seed, and the diverse growth of the young plants, are all matters of deep interest. The more completely each florist makes these operations the work of his own judgment, hand, and eye, the more thoroughly will he understand and value and enjoy the result. Herein, indeed, is one's own experience the sweetest. Herein do even disappointments "pay," for whatever you miss, you fail not in great variety and beauty.

In saving Auricula seed it is important to begin with the flower when young enough. The stigma is not fit for impregnation until it is viscid or slightly gummy. By this natural provision the light pollen grains are enabled to adhere to it. It soon, however, loses this dew of its youth—soon, indeed, after the pollen of the anthers is past its abundance. Before these anthers can burst I remove them from a flower I wish to fertilise, and this will be before it is well open. I watch the stigma, and when it becomes fit I apply a well-dusted young anther from a bloom of the variety I wish to cross with. I have discarded the use of camel-hair pencils; for pollen is a very subtle substance, and in spite of care there is a possibility of mixture by brush-work, whereas nothing is so pure as a virgin anther. When the stigma is covered with pollen it may be expected that the parentage of the seed is tolerably safe, since the stigma has been pre-occupied, and its powers pass away when its work is done. I use a pair of very delicate nippers, fine enough to lay hold of a single anther and to pass down the throat of the flower to the low-lying pinhead or stigma within.

It is no matter-of-course that crossing properly performed is effective. The plants may refuse to bear seed, something untoward occurring leading to a failure or poor crop. Auricula seed is a breakdown with me this year, although I took pains in every way. Spring was a most vexatious and hurtful time, and no florist could read any poetry about it with patience and without feeling it all mere works of fiction, untrue to nature.

If your correspondent has no other green edges than those he has named his disappointment among them is attributable to his apparent lack of the best varieties, which are so difficult to meet with. Prince of Wales is the best he mentions, and it is often awkwardly crumpled. When he can obtain Freedom, Champion, Col. Taylor, Prince of Greens, and Anna his eyes will be gladdened with beauties that do not often disappoint. As to Lancaster Hero coming green-edged, he should rejoice when it does so, and he will grow accustomed to see it bloom in that choice character from a truss that is formed before the spring growth; but the variety is normally a grey edge, and one of our most dashing ones.

I should say he might fairly hope to succeed with the Auricula in rural Wales. Some growers would very gladly exchange their difficulties for his, and take a pure though rainy climate in return for their dingy, dewless, poisoned town atmosphere. The Auricula rejoices in fresh upland air and clear breezes from the moors. But the damp that is fatal to it is not the moisture of a plentiful rainfall, from which it can be protected; "the enemy" is the unnatural dampness and stagnation of ill-ventilated frames, and the sour marshiness of an ill-drained soil.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

## PEACH BLISTER.

WHEN the expanding foliage of the Peach is exposed to the influence of frost or cold cutting winds it becomes blistered—not shrivelled—pretty much in proportion to the cold or exposure to which it is subjected; the affected part changing from its normal colour to a pale green hue, thickens and swells, becoming larger with the growth of the leaf, the outer surface often becoming very rugged and irregular, and upon this a delicate mould or fungus makes its appearance in due course, but not till the blister has been established for some time. This is what close observation extending over many years has taught me. Let those who say that fungus is the cause of this blister explain the process, and prove to demonstration if they can how and why it does so, and in doing so let me ask them to keep to Peach blister alone and not wander off to other forms of disease; in a word, let them give us facts and not fancies.

Mr. Smith evidently confounds blister with curl caused by the attacks of aphides upon the under surface of Peach leaves causing a contraction of the tissue: hence the curl. I am aware that this curl affects other trees in precisely the same manner and from the same cause; but let us confine ourselves to the Peach leaves. If an argument is sound it needs no foreign support. Curl is often present in the foliage of Peach trees growing under glass, but blister is never found in a well-managed house. Mark! I say "well-managed" advisedly, because a little mismanagement of the ventilators during the prevalence of a cold wind induces blister to appear even with "great virulence." Many examples might be quoted, but one will suffice. I was once asked to examine a rather bad case of blister under glass, and found that all along the house immediately under the ventilators the foliage was

much blistered. Traces of the scathing power of the cold air were visible in other parts of the house, but nowhere was there so much affected foliage as in the direct line of the ventilators; thus showing plainly the source of the mischief and its remedy.

Mr. Smith alludes to a form of Peach blister quite distinct from that arising from cold. When and where does this occur? Upon what form of Peach tree, and under what circumstances of climate or cultivation? I have cultivated the Peach successfully under a variety of circumstances and not a few difficulties, and so far I have met with but one form of blister.

To own, as Mr. Smith does, that "the east wind will shrivel and wither all sorts of leaves and prepare them for the attacks of all sorts of fungi," and then to add, "but this is quite beside the question," is to show that he has failed to grasp its meaning or to appreciate its full significance.

The questions asked in the first paper on this subject were simply, "What is Peach blister?" and "What is its cause?" In replying to these questions I showed that the foliage of trees exposed to cold winds became blistered, while that of the trees sheltered from the cold remained perfectly healthy; my aim being to enforce the importance of such shelter, and thus avoid the recurrence of a scourge of such deadly virulence. That is the question, besides which the matter of the fungi assumes quite secondary importance. Mr. Smith believes that fungi is the prime cause of Peach blister and not its result. He is entitled to entertain that opinion, but I consider it is in opposition to the plain teaching of facts.—EDW. LUCKHURST.

### ABOUT MELONS.

It is always a time of anxiety both to amateurs and professionals when Melons are setting. The fruit though apparently setting does not swell but turns yellow, and unless care be taken to have all the fruit upon a plant set together, the first set fruit takes the lead and appropriates all the support of the plant to itself, the others not swelling but turning yellow, though they may for several days remain green but stationary.

I can account for the non-setting, it being invariably associated with a defective root-action—want of warmth and moisture in the soil, with a too close, moist, and not unfrequently cold atmosphere; but for the uncertain and irregular swelling of the fruit I have more difficulty in ascertaining the cause. In some of the older types, as the Cantaloupe in scarlet-flesh, and the Musculatum in green-flesh Melons, I have noticed an occasional fruit not starting with the first set, yet swelling off freely. I have often thought if a free-setting kind, when the first crop was half swelled, had another crop of two or three fruit per plant, that the value of Melons would, especially to those with but a two or three-light frame, be considerably enhanced. A good succession would be had without the means of resorting to a second bed.

I have noted all kinds with a tendency to give successional fruit. I do not mean one crop to ripen and then succeeded by another setting after the first were ripe; but with the first fruit swelled fifteen to twenty days, other fruits followed—perpetual bearers in fact, so far as annuals can be such. Little Heath gave some hope from an occasional fruit of this description, but though its flavour was fair it was not likely to command favour with those having heat. Read's Scarlet Flesh gave proof of its free setting and continuity of bearing, but the secondary fruit were so small as not to be of much worth. Victory of Bath exhibited a disposition of this kind, also Beechwood in the oval form, which is a very free setter, and does not net much. There is another form of Beechwood perfectly spherical and beautifully netted, which is not a good setter, being very impatient of moisture, the plant being much given to damp at the collar. This is not a good second-crop sort nor a successional bearer, but being a great favourite I still think it unsurpassed in green-fleshed Melons when it can be kept in character, it being apt to degenerate or revert to the oval form, which is not good in any respect. Oulton Park (Wills) also gave evidence of intermediate bearing, but the secondary fruit, as with Read's, were so small as to be underserving attention.

Now, seeing the intermediate fruit of Read's were small, I crossed Beechwood therewith; but though I have a plant less susceptible of damp, the fruit setting very freely, swelling splendidly to a good size, round as a ball, without a trace of rib, and netted all over without a core, seeds embedded in the

flesh, pale rose colour, yet not a sign is given of perpetual bearing.

Golden Gem × Read's has given a smaller fruit than either of those with a white flesh, the fruit ripening off golden as in Golden Gem, and being well netted. It may, however, be grown to a size of 2 to 3 lbs., with three to four fruits upon a plant; but I have it this year with eight, three of which are intermediate fruit. The point sought is, therefore, to a certain extent gained, also an increased hardness of plant, which is one of the greatest desiderata in Melons. Victory of Bath, as before stated, exhibits a tendency to perpetual bearing, and the result of a cross between it and Beechwood has given us Easton Castle, which possesses the vigour of Beechwood and its deeply-lobed foliage. It has also the same tendency as the last-named to damp at the collar. The fruit is oval and slightly netted, but excellent in flavour. Now, this is one of the freest-growing and setting of all Melons, and a certain (so far as two seasons' experience of it verify) and continuous bearer. I have only two plants (for I do not grow named sorts except a few plants for impregnating), dependence being placed upon crossbreds, and of these two plants have respectively five and four fruit of the first swelling, and four and three of the second, respectively. The secondary fruit will apparently swell to a size superior to the first crop. The secondary fruit are twelve to thirty days later than the first crop—thus a bed planted at the close of March or early April will have the fruit set in about six weeks, and the fruit ripe about the end of June or early July, and the last of the secondary fruit will not be ripe until early August. It may not be a fixity of character, but it appears to be so, and in that case it will be highly valuable to those who do not care to have the fruit all ripe together, but are desirous of a continuity of bearing—the fruit ripening at intervals.

Varieties of Melons are being extended annually, the main object apparently being to impart flavour to bulk without taking into consideration other advantages, particularly that of hardness. Could the flavour of our best heat-requiring kinds be implanted in a plant that would succeed in a cold frame it would be a boon to many who cannot command heat, as well as advantageous to those who can.—G. ABBEY.

### NERTERA DEPRESSA.

As information is sought on the cultivation of this remarkable and exceedingly ornamental plant, I may briefly detail my experience. I have grown it now for four years, and each year I find that the less I shelter it the better it flourishes. If it is not entirely hardy it is very nearly so, and certainly all the shelter that is needed to protect it in winter is the glass of a cold frame.

I at first failed with this plant, as many have failed, by placing it in a temperature too high for its nature, when it grew spindly and eventually dwindled away. I was afraid also of watering it overhead lest it should "damp-off," but experience has taught me that the plant is not nearly so delicate as its looks imply. I now permit it to have frost and snow in moderation and rain without reserve, and I am rewarded with healthy plants laden with brilliant orange-scarlet berries. I am indebted to the "Botanical Magazine" for suggestions as to the right mode of culture, having found it there stated to be "a native of the bleak cold antarctic mountains, and found also on the mountains of New Zealand, and on the Andes from Cape Horn to New Grenada."

It does not grow more than 2 inches high, and produces its Red Currant-like fruits to the number of more than a hundred on a few square inches of surface. For rockwork it is a charming plant, and for the front row in a light and cool greenhouse it is a gem ever to be admired. Its culture is of the simplest, and it is a plant which almost all who own a garden may grow successfully. It is not at all dainty as to soil; but a compost in which it grows with great freedom is equal parts of loam, peat, and bruised charcoal. The great point is to afford it plenty of water—in fact, with good drainage too much water cannot be given to established plants.

There can be no better place in which to grow it than a very light cold frame, the pots to be plunged in ashes. This is very important, for if not plunged the soil will become dry at some time or other, and the plants will then inevitably lose vigour. The lights should be removed from the frame during fine nights, so that the plants can receive the benefit of the dew, and also, during the day when heavy showers are not prevalent—not that the rain will do serious injury, but by

splashing the soil over the plants they are rendered somewhat unsightly.

I read last year in the Journal that this plant was employed by Mr. Legg of Clapham for purposes of carpet bedding, it being associated with *Sedum glaucum*. I considered that a valuable hint, for I cannot conceive a combination more chaste yet more brilliant, and I shall report progress of the growth of these two lovely hardy plants for garden decoration by-and-by.

At present my plants of *Nertera* are just showing their insignificant pink flowers in profusion, and I am sanguine that a rich crop of fruit will follow. These plants were wintered in a cold frame, the glass having had no covering, and since March they have been plunged in ashes in the open border, receiving no protection whatever. Other plants grown under glass are about perfecting their berries, and I cannot imagine any low-growing plants more conspicuously beautiful.

Plants are readily increased by division, keeping the plants regularly and continually moist; also from seed, sowing as soon as ripe in a damp shaded frame, never permitting the soil to approach a state of dryness.

The three prime essentials in the cultivation of this plant are coolness, light, and water. With a bed of ashes in which to plunge the pots, and a hand-light or frame to afford shelter in severe weather, anyone may grow *Nertera depressa* if he will but water it freely.—W. B. J.

## NOVELTIES IN THE ROYAL GARDENS, KEW.

*MECONOPSIS WALLICHI*, on account of its high reputation as a beautiful plant and from its long absence from cultivation, is of the greatest interest just now on the rockwork. In our issue of June 11th, 1874, we gave an account with a figure, and to which we must now call attention. It is there said to be "remarkable as being one of the very few plants, if not the only one of the order, with blue flowers. It was discovered in the Sikkim Himalaya by Dr. J. D. Hooker, who sent seeds to the Royal Gardens, which produced flowering plants in June, 1852." This plant is about 2½ feet high, and the leaves and stem have a very yellow appearance, from which one would almost feel sure of a yellow flower; indeed, until the last few days it was supposed to be *M. nepalensis*, a tall species with yellow flowers that has also been in bloom. It cannot be said that this is anything like the celestial blue represented; the colour is, in fact, slightly inclined to purple, and not at all bright. This is possibly a very poor representative in point of colour, and we shall hope that such is the case until evidence is given by other specimens.

Its cultivation has been considered difficult, though that does not seem really to be the case. Seeds sown in a cold frame have come up well—far better than others with slight heat. The young plants have had no inclination to die during winter, either in pots under glass or planted out on the rockwork. It seems much the best to plant out as soon as the plants have become established after the first potting-off, and it might even be better to prick-out in the final position from the seed pot. A full supply of moisture both at roots and top is evidently essential, and this is perhaps the secret of success. A rather shady position will be found the best. It is more than likely that the above-mentioned plant will produce good seeds, so that many who are interested will again be able to possess this handsome blue Poppywort.

*Cucumis sativus* var. *sikkimensis*, a curious and interesting form of *Cucumber*, is fruiting in the Economic house. The most striking peculiarity is the network which covers the entire fruit much as in the Melon, and which renders it quite characteristic. It is commonly grown in all parts of the Sikkim and the Nepal Himalaya, where it is eaten both raw and cooked by the natives of all ages. It was found by Dr. Hooker in Sikkim in 1848, who brought drawings and specimens to England, and until then it had never been noticed either horticulturally or botanically. M. Naudin, who has made a special study of the *Cucurbitaceæ*, said when describing it that it was the most remarkable variety of the common *Cucumber* known to him. It is sometimes about 5 inches through, while only 1½ foot long. This, it may be mentioned, was the supposed hybrid between the *Cucumber* and the Melon, but the distinct species to which they belong have never yet been crossed. It was figured and described in the "Botanical Magazine" for January of this year, from specimens grown in the tropical economic house last summer.

*Calochortus citrinus* is flowering in the Orchid-house porch, where also have been several other species, as well as in one of

the herbaceous beds. This, which is the most recently figured, must be an excuse for calling attention to the decorative value of the genus, which includes also *Cyclobothra* as a sub-genus. Some are as brightly coloured as many of the very fugacious Irids, but have the advantage of lasting several days. It has recently been mentioned in a contemporary that they last a long time in water. They appear of easy cultivation, though likely to do best where, being planted in the open ground, they can have the protection of glass during very wet weather when at rest.

*Theropogon pallidus* is a newly introduced plant, figured in the "Botanical Magazine" last year. It has Lily-of-the-Valley-like flowers, with a pinkish tinge and a slight scent of something like cinnamon. The leaves are very narrow, with much the aspect of *Ophiopogon*. It is a native of the Himalaya Mountains, where it is a common plant.

*Kniphofia caulescens* has been flowering in the herbaceous ground, and in the opinion of one authority is the finest of all. It is still very rare, from the fact that it will not divide like the other species. After attaining its arborescent habit the leaves and flower spikes lose a very considerable amount of vigour. If the development of its characteristic stem is thought most important, then the loss of handsome flowers and foliage must be borne. To produce the most ornamental effect it is necessary to keep the head low down, so as to be as near to the roots as possible, for the purpose of being well fed. It may safely be said that, like most of the Aloes, the top may be cut off and rooted without trouble. A safer method of procedure is to produce the roots before amputation, either by tying a bundle of damp moss round the stem, or by any other method that may suggest itself as best under the circumstances. A great advantage in taking off the top is that the old stump will give a stock of young plants.

## NOTES ON THE TWEED VINEYARD.

MANY of your readers will know that the principal crops of Grapes at this place are growing in five span-roofed houses, 200 feet long and 24 feet wide each. The crops in these this season are much superior to what they have been in previous years. All the Vines are now bearing to the extreme top of the rafters. The thinning, which employs half a score of men for twelve weeks every season, is just finished. The first thinned Grapes are nearly fully swelled. Of course it is quite out of the question to give a calculation of the number of the bunches, but the weight of many may be guessed pretty accurately. Lady Downe's, of which there are nearly two housefuls, are a magnificent crop. Few of the bunches can finish under 1 lb., and scores of them will approach 3 lbs. This is very fair for this variety. Alicantes are heavier in the bunch, and just about as abundant. Next to those two Gros Colman is perhaps grown most extensively amongst lates at present, and right well it looks; but Barbarossa will very soon be more plentiful than any other late variety excepting Lady Downe's.

At first the south house of the chief flock of vineries was wholly planted with Muscats. They succeeded very well, but it was found that they did not pay quite so well as Vines which produced black fruit. In the latter end of 1874 a young cane of the Barbarossa was inarched on to every Muscat stem. Last year the top part of the stock was cut away, and the growths which the Barbarossas made were of a first-class description; so strong indeed was the young wood that at pruning time from 6 to 8 feet of it was left to fruit this season. On many of these lengths there are now half a dozen bunches, and excellent clusters they are both in form and size. They will average from 4 lbs. to 7 lbs., and not a cane has missed a crop. The splendid crop they are carrying is not more worthy of note than the young wood they have made this season. That between the top of last year's wood and the top of the rafter on many of them is so thick that it can scarcely be spanned with the hand. There is another thing connected with these Vines worth mentioning—every top has the support of two roots. The young canes of Barbarossa, instead of being left in the pots when inarched, as is done in most cases, were turned out of the pots and planted about a foot from the Muscat root; the top is cut off the latter, and both stems join one another about 3 feet from the ground.

Amongst new Grapes Pearson's Golden Queen is promising well; Waltham Cross, a late white, has been tried every season since it was sent out, and it has as often completely failed. Mr. Douglas must be extremely unfortunate with the Duke of Buccleuch (see page 493). On scores of rods of it here this

season it has produced one and two bunches on every shoot. The crop of it now is one of the finest sights about the place, and the young wood is not far behind that of the Barbarossa. None of the hundreds of bunches will be much under 2 lbs., and the most of them will run between this and 3½ lbs., and the bunches and berries are as finely developed as any person need wish to see.

Pine-growing is all but given up. One of the Pine stoves 200 feet long is planted as a vinery. Muscats and the Duke of Buccleuch are the principal sorts. Another Pine stove 200 feet long is filled with young Vines in pots. Fruiting canes of the Duke and many other sorts were in fine condition here, as they were without exception in four or five other large houses, which are entirely devoted to growing young Vines. Excepting for early fruiting all the strongest Vines are grown into fruiting rods in one season, and judging from their size now they will be first-rate canes by the end of the season. Preparations are being made for erecting another vinery. It is to be a lean-to 250 feet long and 16 feet wide. Lady Downe's will form the principal stock here.

Plants are not largely grown; the only class of note being Orchids, and a more healthy or better grown collection is impossible to conceive. One splendid plant of *Lælia purpurata* had one fine spike of seven blooms of immense size and very rich in colour. All the Orchids here are grown in a much lower temperature than is generally the case, 40° at night throughout the winter being about the average, and right well the plants thrive with this. The finest plant of *Anthurium Scherzerianum* I have ever seen is here. It fills a 16-inch pot. The leaves are about 4 inches across, and the scarlet spathes are very large and bright in colour.

This is not intended as a full report of all that may be seen here of interest; but there is another thing which I must not forget to mention, and that is a new *Viola* which was raised here two years ago, and named Sir Walter Scott. It is very dwarf and compact in the habit of its growth. The flowers are of the most intense purple, and from 2½ to 3 inches in diameter. They are produced in dense masses, which are very effective. I had an opportunity of comparing it with others where all the best *Violas* are grown by the thousand, and every one of them were very much inferior to it.—A MIDLAND COUNTIES READER.

### UNIQUE PEA.

The desirability of a first dish of Peas is shown by the eagerness of the grower and the zest of the consumer. There is, of course, some difference of opinion as to the fitness of a first dish of Peas for gathering; also in having a heavy or light soil in equal climatic conditions to deal with in the production of early Peas. I remember well having a hard struggle to gather a first dish from a heavy clay by the time that Peas were had from the open fields in sandy soil, I having walls for shelter, and could if needed protect the crop. At that time there was no really good early dwarf Pea. The most that could be done was to sow on turves or in pots and plant out after the Peas had made so much headway as not to be longer continued in frames. Tom Thumb, and subsequently Little Gem, marked a new era in Peas, admirably adapted as they were from their dwarf growth and productiveness for warm situations, as the fronts of south walls, where the taller kinds could not be accommodated without injury to the fruit trees against the wall, and for frame culture and forcing. It is not now a matter of difficulty to command a dish of Peas at an early and late season. They force as readily as Kidney Beans, but require a lower temperature and more air. Where Potatoes and Strawberries succeed Peas may be forced successfully.

For forcing or for growing in cold frames (I find a span-roofed frame best for Peas and Kidney Beans to come in a month before those in the open ground), and for sowing a foot from the south wall, I consider Unique to be the best of the dwarf Peas. It is slightly more prolific than Little Gem, the pods are mostly produced in pairs, eight to ten on a stem, the pods slightly curved and pointed similar to Blue Scimitar, the peas, six to eight, being of a fine green colour. It is moderately robust in habit, attaining to a height of 18 inches. I sowed Unique this year on January 29th 1 foot from a wall with a south-west aspect, and had the first dish, a full even-sized crop, on the 28th of June. It is about 6 to 8 inches less in height than Blue Peter, and the crop ripens off very nearly together—a great point in a forcing Pea or one grown in a warm situation.

For the purposes named and for small gardens it is very desirable, alike for its earliness and good quality. I may say that William I. and First and Best, sown February 21st 3 feet from a south wall, are only just now (July 3rd) fit to gather.—A.

### ASTRANTIA MAJOR.

This was introduced from southern Europe many years ago, but is by no means a common plant. It belongs to a small but interesting genus, requiring no particular treatment in cultivation. Any ordinary garden soil will meet the requirements of these plants. They are the better if they are replenished now and again with a little good sandy loam until established, and then they will remain a long time without removal. When they have attained to a large size they may



Fig. 3.—*Astrantia major*.

be taken up, divided, and replanted, or reduced according to the operator's views. Being natives of mountainous districts they must not be allowed to suffer from too much moisture. They are quite at home in our borders and out-of-the-way places in wilderness scenery and partially shaded walks, where, if they can have light and air, they continue in bloom for a length of time.

*Astrantia caucasicus* is of dwarf habit, and is a handsome plant on the shady part of the rockery. *A. pauciflora* is likewise of dwarf habit; it has pretty white flowers. It is, perhaps, the least known of the family, and is an acquisition to all collections. *A. carniolica* and *maxima* are taller and stronger-growing kinds. All are pretty, and deserve more extensive cultivation than they are at present receiving. *A. major* is an effective border plant, growing 2 feet or more in height; it commences flowering in June, continuing in beauty for a considerable time.—N.

### FEATHERED HELPS IN GARDENS.

I HAVE great pleasure in noting attention being drawn to the utility of peewits in gardens. We have been in the habit of securing some of the young birds for a number of seasons in May or June, and were formerly in the habit of pinioning them,



in which way we kept them for a number of seasons, but in times of hard weather—snow and continued frost—they perished from sheer starvation. These were “hard lines,” it being clear that we were guilty of their death, for had we taken measures only to stay their flight by clipping the feathers of one wing we might in severe weather have so cut the other as to permit of the birds escaping to find some food. In another way we were convinced of the cruelty of pinioning. A bird of this kind would escape by an open or unguarded door. A peewit escaping is certain to make clear off, and with its wing pinioned it has no chance of finding fresh pasture, or if it does its fate is sealed. It hurts the bird to pinion it; thus cruelty commences with its captivity and often is the precursor of its death. Just a last word—Place water for the birds to drink.—A. G.

## ALEXANDRA PALACE ROSE SHOW.

JULY 7TH AND 8TH.

BOTH for the high quality of the collections and the excellent effect they produced this Exhibition must take very high rank. It was the last of the metropolitan Rose shows, as it was undoubtedly the best. The Exhibition was held in the concert room, which is vastly superior to the large hall for such a purpose, the subdued light of the concert room showing the blooms to great advantage. The collections were arranged on four tables running the length of the room, the centres of which were occupied with Palms, Ferns, and Aroids, affording a pleasant relief to the formal and massive lines of Roses. Although many who had entered failed to stage their collections, yet the tables were very nearly filled, and the thousands of superior blooms afforded a rich feast of beauty to rosarians and the Rose-admiring public. The total length occupied by the boxes was about 1000 feet. The room was cool—agreeable to the visitors, and favourable for preserving the freshness of the blooms.

In the class for seventy-two varieties (nurserymen), the Judges after a long and careful examination awarded the first honours to Messrs. Paul & Son, Cheshunt. The blooms were full, compact and superior, and perfect in colour and freshness. Duchesse de Caylus, Duke of Wellington, Madame Lacharme, Felix Genero, Madame Clemence Joigneaux, Dupuy-Jamain, Marie Baumann, Richard Wallace, Victor Verdier, Madame Victor Verdier, Reynolds Hole, Annie Wood, and Paul Verdier were in superb condition. This is the finest collection of Roses that Messrs. Paul have this year exhibited; they have staged larger blooms, but never blooms of such uniform high quality. Mr. Cant, Colchester, was second with a very fine collection, most of the blooms being perfect, but a few were fully too much expanded. Most lovely was La Boule d'Or; and splendid were Emilie Hausburg, Horace Vernet, Fisher Holmes, Ville de Lyon, Prince Arthur, Charles Lefebvre, Madame Willermoz, Monsieur Noman, Black Prince, and François Michelin. Messrs. Cranston & Mayos were placed third. Bessie Johnson, Annie Laxton, Charles Rouillard, Sir G. Wolseley, Duchesse de Caylus, and Etienne Levet were very splendid; and Jean Cherpin, Fisher Holmes, and Reynolds Hole were a trio of dark Roses not easy to be superseded. Ferdinand de Lesseps and Madame Charles Wood were also exceedingly fine. Mr. Prince, Oxford, had the fourth prize. Le Havre, Devienne Lamy, François Courtin, Gloire de Santeny, and Henry Ledechaux were very superior; and the Teas, Madame Guillot, Narcisse, Marcellin Rhoda, Madame Jules Margottin, and Catherine Mermet were extremely effective. An extra prize was awarded to Mr. Keynes, Salisbury, for an admirable collection, the blooms being perfectly fresh and bright, but somewhat irregular as to size. The best bloom in the stand was Madame Marie Finger. The Teas, Souvenir de Paul Neron, Catherine Mermet, Madame Margottin, Souvenir d'Elise, Caroline Kuster, Madame Willermoz, and Jean Ducher were in superb condition. The Judges had a difficult task to perform in making their awards, and he would be a bold man to question the correctness of the decision of Mr. William Paul, Mr. Baker, and Mr. S. Hibberd. It is only such Judges who can deal satisfactorily with large collections so nearly alike in point of merit.

The next class, for forty-eight trebles, required also close and long examination before judgment could be delivered. The collections were exceedingly fine, the blooms equalling in quality those in the preceding class. Mr. Cant was declared the victor. In this collection Thomas Mills was simply grand; and splendid were Ferdinand de Lesseps, Etienne Levet, Marie Rady, Charles Lefebvre, Marie Baumann, Comtesse d'Oxford, Louis Van Houtte, François Michelin, Marguerite de St. Amand, Dupuy-Jamain, Baronne de Rothschild, and Devoniensis. Messrs. Paul & Son were placed second for a fresh and splendid collection. Louis Van Houtte, Monsieur Noman, Etienne Levet, Comtesse d'Oxford, Xavier Olibo, Annie Laxton, Senateur Vaisse, Exposition de Brie, Madame Thérèse Levet, Madame Vidot, Reynolds Hole, Mlle. E. Verdier, M. de St. Amand, Mad. Lacharme, and Maréchal Niel were perhaps as near perfection as these fine Roses have

been produced. Mr. Turner had the third place. Le Havre was here again in grand form, and almost equally splendid were Louis Van Houtte, Auguste Rigotard, Dean of Windsor, Royal Standard, François Lovat, Madame George Schwartz, Villaret de Joyeuse, Triomphe de Caen, Xavier Olibo, Lælia, Beauty of Waltham, Charles Rouillard, Marie Baumann, Etienne Levet, Fisher Holmes, and Alfred Colomb. Messrs. Cranston & Mayos were placed fourth for a collection containing many blooms of great merit, notably Annie Laxton, Marquise de Castellane, Madame Vidot, Mons. Noman, Princess Beatrice, Duchesse de Caylus, Fisher Holmes, La France, Madame George Schwartz, Madame Furtado, Louis Van Houtte, Ferdinand de Lesseps, and Madame Marie Finger; an extra prize being awarded to Mr. Keynes. In this collection Mlle. Marie Cointet was perfectly charming, and Fisher Holmes was grandly conspicuous; Camille Bernardin, Senateur Vaisse, Duchesse de Morny, Dr. Andry, Monsieur E. Y. Teas most beautiful, François Michelin, Edouard Morren, Ferdinand de Lesseps, Capt. Lamure, Etienne Levet, Madame Charles Wood, and Madame Marie Finger were all in full perfection.

In the class for twenty-four trebles six grand collections were staged, the prizes going to Mr. Turner, Messrs. Paul & Son, Mr. Keynes, Mr. Prince, and Mr. Cant in the order named. Etienne Levet, François Lovat, Le Havre, splendid; Madame Hazard, Marquise de Gibot, and Senateur Vaisse in the Slough collection were unsurpassable. The prize collections in this class contained the finest blooms to be found in the Exhibition.

For twenty-four single trusses the collections of Mr. Cant (first) and Mr. Turner (second) were nearly equal in point of merit, and far in advance of the others. Mr. Turner staged one of the finest blooms of Madame Vidot ever seen. Devienne Lamy, Alfred Colomb, François Michelin, Charles Rouillard, Duchesse de Morny, Marie Rady, Madame Charles Wood, Alba Rosea, and Devoniensis also showed to great advantage. The remaining prizes went to Mr. Keynes and Mr. House, Eastgate Nurseries, Peterborough.

For twelve Tea-scented or Noisette Roses Mr. Prince, Oxford, was first; Mr. Corp, Oxford, second; and Messrs. Paul & Son, Cheshunt, third. The best blooms in this class were Adam, Alba Rosea, Belle Lyonnaise, Comtesse Nadailac, Madame Willermoz, Marie Van Houtte, Marcellin Rhoda, Madame Opoix, Moiré, and Souvenir de Paul Neron.

We now come to the amateurs' classes, and find great competition and many highly superior collections. For forty-eight single blooms Mr. W. Nichol, gardener to T. H. Powell, Esq., Drinkstone Park, Bury St. Edmunds, was placed first with a collection of undeniable merit, and containing many blooms equal to the best in the Exhibition, notably Madame E. Verdier, Madame Lacharme, Mons. Noman, Marie Rady, Etienne Levet, Leopold I., and Annie Wood; second honours going to Sir C. R. Rowley, Bart., Tendring Hall, Colchester (Mr. Rushmore, gardener); Mr. Ingle, gardener to Mrs. Round, Birch Hall, Colchester, being third with very creditable collection; and Rev. J. B. M. Camm, Monkton Wyld, Charnmouth, fourth, Prince Arthur (dark) and Madame Trifle (white) being the best blooms, many of the others being fully too much expanded.

For thirty-six varieties, single trusses, the first prize went to T. H. Powell, Esq., for a really splendid collection. Maréchal Niel and Baroness Rothschild were very perfect, and nearly all the others good; the second place being occupied by Mrs. Round; third, Sir C. R. Rowley; and fourth, Rev. J. B. M. Camm. The first-prize collection reflected the greatest credit on the grower, the blooms being of “professional” quality.

For twenty-four Roses there were twelve competitors, first honours being awarded to Mr. Henry Atkinson, Brentwood, Essex, for an excellent collection; Mr. Smallbones, Chatteris, being second; Mr. Cavell, Oxford, third, the blooms being smoother and better than the Chatteris Roses; and Mr. Quennell, Brentwood, Essex, fourth.

In the class for twelve Roses there was great competition, twenty-two collections being staged—the finest lot of amateurs’ “twelves” we have ever seen exhibited. The first prize was awarded to Mr. Smallbones for Louis Van Houtte, Baronesse de Rothschild, Maurice Bernardin, Edouard Morren, Comtesse de Chabillant, Alfred Colomb, Felix Genero, Camille Bernardin, Madame Rivers, Oliver Delhomme, Senateur Vaisse, and François Michelin; Rev. Alan Cheales, Brockham Vicarage, Reigate, being placed second, Charles Lefebvre and Leopold I. being very superior; Mr. Jowitt, Hereford, being third for smaller yet excellent blooms; and Mr. H. Atkinson fourth.

For twelve Tea-scented and Noisette Roses (amateurs) the first prize went to Mr. Ingle, gardener to Mrs. Round, and second to Mr. Camm, the first-prize collection only having three perfect blooms, while the second-prize box had at least half a dozen of superior quality. As a rule the standard of quality of the Tea Roses was not equal to that of the Hybrid Perpetuals.

In the open classes some very fine new Roses were exhibited. For twelve Roses of 1874, 1875, or 1876, Mr. Turner, Slough, was first with Villaret de Joyeux, Sir Garnet Wolseley, Miss Hassard, Isaac Wilkinson, Beauty of Slough, a splendid Rose and

sweet; Hippolyte-Jamain, Sir Salar Jung, very dark and very full; Royal Standard, Madame Liebhart, Jean Ducher, Rev. J. B. M. Camm, and Alexander Mackenzie. The last-named is after the style of Pitard, maroon suffused with violet. Every Rose here named was in splendid form, Isaac Wilkinson being perhaps the premier bloom in the entire Exhibition. Messrs. Paul & Son, Cheshunt, were second; The Shah, Sultan of Zanzibar, Duke of Connaught, Duchess of Edinburgh, Perle des Jardins, and Mons. E. Y. Teas being remarkably fine, especially the Rose last named, a variety likely to prove of sterling worth. The remaining prizes went to Mr. Keynes and Mr. Cant.

For six trusses of any Rose of 1874, 1875, or 1876, Mr. Corp, Oxford, was first with Hippolyte Jamain; Messrs. Cranston and Mayos being second with Sir Garnet Wolseley; Mr. Prince third with Mdlle. Marie Cointet; and Messrs. Paul & Son fourth with Duke of Connaught.

For eighteen English-raised Roses in commerce Messrs. Paul and Son were placed first with, as the best, St. George, Bessie Johnson, Cheshunt Hybrid, Queen Victoria, Duke of Connaught, Peach Blossom, Beauty of Waltham, Princess Beatrice, Lord Macaulay, Devonensis, Empress of India, Princess Mary of Cambridge, Dr. Hooker, Reynolds Hole, Annie Laxton, and Duchess of Edinburgh. Mr. Turner being second with a collection little, if anything, inferior, comprising Mrs. Baker, Royal Standard, Sir G. Wolseley, Black Prince, Princess Beatrice, Peach Blossom, J. S. Mill, Miss Poole, Star of Waltham, Miss Hassard, Reynolds Hole, Devonensis, Marquis of Salisbury, John Hopper, Princess of Wales, Annie Laxton, Bessie Johnson, and Rev. J. B. M. Camm. Mr. Cant had the third prize.

For twelve Roses, distinct, Mr. Corp, Mr. Turner, and Mr. Tranter were placed in the order named. For twelve blooms of Edouard Morren Mr. House, Peterborough, was first for grand blooms; Messrs. Paul & Son being second. Mr. Cant was first for Princess Beatrice, and Mr. House second. For Madame Lacharme Mr. Cavell, Oxford, was first with the most perfect and lovely blooms which have perhaps ever been staged at any exhibition; Messrs. Paul & Son having the second place also with fine blooms. For twelve Maréchal Niel Mr. Cant had the first place with moderate blooms. For twelve Alfred Colomb Mr. Turner was first, and Messrs. Paul & Son second. For twelve La France first Mr. Cavell with magnificent blooms; second Sir C. R. Rowley. For twelve Marie Baumann first Mr. Turner, second Messrs. Paul & Son for admirable boxes; Mr. Turner's blooms having the best form, Messrs. Pauls' the best colour. For twelve Princess Beatrice first Mr. Cant, second Mr. House.

Roses in pots were not superior, Messrs. Paul & Son being the successful exhibitors. Neither were the vases of cut blooms of noteworthy merit; the prizes for these went to Mr. Rumsey, and Mr. Gardiner, gardener to Lady Garnier.

Mr. Rumsey, Joynning's Nursery, Waltham Cross, exhibited new Lobelias: *L. compacta* Blue Perfection, *L. compacta* celestina, and *L. compacta* purpurea, good and effective varieties; and Messrs. Dick Radcliffe & Co. tastefully arranged Fern cases.

As an exhibition of Roses this must be considered as one of the best and most effectively arranged that has ever been held in or near London. A quicker mode of placing the awards and the names of the winners is desirable. In this particular the Alexandra system is the slowest of all.

## SANDOWN PARK FLOWER AND FRUIT SHOW.

SANDOWN PARK is one of the most popular places of public resort, patronised by a large and influential class of society. Being situated at a convenient distance from the metropolis, and in a district remarkable for its salubrity and landscape beauty, it is a most enjoyable rendezvous apart from the many attractions which are provided for the enjoyment of its subscribers.

From the brow of the hill looking eastward the view is superb. To the right may be seen the glittering Palace of Sydenham, to the left the majestic towers of Windsor Castle, and in the foreground the severely massive and venerable palace of Hampton Court. The district, too, is richly wooded, so much so as almost to hide from view the Thames which meanders along the valley. The Park itself is also ornamental, the wood which crowns its highest point being fringed with beds of flowers. These beds are furnished, and the dressed enclosure is kept in excellent order by Mr. William Langstone, Milburne Nursery, Esher.

For the first time since the establishment of the Club horticulture has lent its charms to Sandown. The "gentle craft" was wisely considered to possess appropriate attractions for the "gentler sex," and an Exhibition was improvised under the superintendence of Mr. Wills of decorative fame. A comprehensive schedule was framed, and prizes amounting to nearly £400 were offered, and the days fixed for the display were the 7th and 8th inst. In this year of exhibitions it was no easy matter to find days for the show without clashing with other shows, and hence the fixture was unavoidably synchronous with

the Rose Show at the Alexandra Palace. Neither is the month of July the best time for a horticultural exhibition; the plants have then lost their glossy freshness, and the fruit is scarcely in its season of plenitude; but Roses are "in," and Roses were at Sandown, also plants and fruit. Considering, therefore, the season of the year, and also its being a first—an experimental—show, the result was very satisfactory and encouraging, and will probably lead to larger and more complete exhibitions in future years.

The products were arranged in three marquees, having communication with a lengthy corridor, and the tents and corridor were crowded with the competing collections; indeed, too crowded, and for "effect" too much divided. Had the whole been arranged in one large enclosure the Exhibition would have been much more imposing, but what was impossible this year may be accomplished on another occasion. On the second, the principal, day of the Show very heavy showers fell, which had a deterring effect on visitors, and the hoped-for arrival of the Prince and Princess of Wales did not take place.

A formal report of the Show is not called for. It was much like other shows in constitution and arrangement. In the nurserymen's class for nine fine-foliated plants Messrs. Jackson and Sons, Kingston; Mr. B. S. Williams, Holloway; and Mr. Ley, Croydon, were the successful exhibitors, staging very good collections. In the amateurs' class Mr. Bones, Oatlands Park, had the best specimens. *Croton interruptum*, a perfect plant, was 6 feet high, and the same in diameter at the base. He also staged other excellent specimens. Mr. King, gardener to R. Few, Esq., Wolsey Grange, Esher, was also successful. The same exhibitors, with Mr. Cornhill, gardener to J. S. Virtue, Esq., and Mr. Crafter, gardener to Rev. W. Finch, Kingston Hill, were successful with stove and greenhouse plants and Heaths.

In the Orchid classes the prizes went to Messrs. Rolliison and Sons, Tooting, and Messrs. Jackson & Sons. Messrs. Rolliison and Sons were first with *Dracenas*, and Mr. Ley with *Palms*. For exotic Ferns, which were very good, Mr. B. S. Williams, Mr. Cornhill, and Mr. Hinnell, gardener to S. Davis, Esq., Surbiton, were the successful exhibitors; and for hardy Ferns Messrs. Jackson and Mr. James, gardener to W. F. Watson, Esq., Redles. Mr. Baxindine, Guildford, exhibited good *Lycopodiums*, and remarkably fine *Caladiums* came from Mr. Foster, gardener to J. F. Lightfoot, Esq., Glenhurst, Ewell, and Mr. King. To both these collections first prizes were worthily awarded. Mr. Williams was the only exhibitor of *Agaves*, staging *A. Kerchovi*, *A. esiforme*, *A. americana*, *A. Taylorii*, *A. applanata*, and *A. Regeli latifolia*, a small but healthy and distinctly ornamental group.

Show and fancy *Pelargoniums* were extensively exhibited by Mr. Turner, Slough, and successful also were Mr. James and Mr. Croxford, gardener to Miss Dunnage, Surbiton. Amongst the newer show varieties from Mr. Turner, Lord of the Isles, Sappho, Prince Rupert, Toby, Despot, and Inflexible were highly superior. Zonal *Pelargoniums* quite 5 feet in diameter came from Mr. King; and very good variegated specimens from Mr. Morgan, Oak Lawn, Weybridge, and Mr. Tucker, gardener to A. Saunders, Esq., Woodbridge Park, Guildford. Collections of bedding plants, which were very effective and ornamental, came from Mr. Dean, Ealing, and Mr. Turner. Mr. Dean's had been grown in pans, and hence were awarded the first prize, Mr. Turner's having been recently potted from the open ground. Both collections were very good. Miscellaneous collections of plants were exhibited by Mr. B. S. Williams, Mr. Dean, Messrs. Rolliison & Sons, Mr. Bond, &c., and extra prizes were awarded.

Roses were very good. Mr. Turner was the principal winner amongst nurserymen, followed by Messrs. Vigo & Son, Guildford, and Mr. Fletcher, Ottershaw, Chertsey; and amongst amateurs the prizes went to Mr. James, Redles; Mr. Crafter, gardener to Rev. W. Finch, Woodlands, Kingston Hill; Mr. Moorman, gardener to the Misses Christy; and Mr. Ellis, gardener to J. Galsworthy, Esq., Coombe Leigh, Kingston. Mr. Turner exhibited a beautiful stand of *Carnations*, and also collections of *Verbenas*, which were greatly admired.

FRUIT.—Twenty Pine Apples were staged. Black Grapes were good, white Grapes poor. Melons, Peaches, Nectarines, and Strawberries were well represented. For three Pines Mr. Bond was placed first for capital Queens, which had been grown throughout the season without fire heat and without artificial bottom heat. Mr. Ward, Longford Castle, was second with Providence, and Mr. Childs, gardener to J. Gray, Esq., third. For a single Pine, any variety, Mr. Hepper, gardener to C. O. Ledward, Esq., was first with a capital Ripley Queen; Mr. Bond second, and Mr. Child third.

For baskets of black Grapes the prizes went in the following order—to Mr. Hinnell, Mr. Bond, and Mr. Taylor, gardener to Miss Taylor, Weybridge, each staging well-finished fruit. For a single dish of black Grapes the first prize was awarded to Mr. Edwards, Liphook; second to Mr. Hinnell, and third to Mr. Bridgeman, Marlow. For white Grapes Mr. Fillery, gardener

to Sir D. Sassoon; Mr. Edwards, gardener to W. B. Tristram, Esq.; and Mr. Kemp, were placed in the order named. — Peaches were very good; Mr. Sage, Ashridge Park, winning with highly coloured *Violette Hâtives*, followed by Mr. Strong, Woburn Park, Weybridge, and Mr. Kemp, gardener to R. Curtis, Esq., Kingston. In Nectarines Mr. Sage, Mr. Howard, gardener to J. Lovibond, Esq., Farnborough, and Mr. Kemp had the prizes; and for Cherries Mr. Strong, Mr. Sage, and Mr. Foster. Mr. Sage exhibited splendid Figs, and Mr. Lovibond remarkable fasciated Strawberries.

For a collection of twelve dishes of fruit in six distinct kinds Mr. R. Strong, gardener to W. J. Alt, Esq., Woburn Park, had the first place with Pines, Grapes, Peaches, Melons, Strawberries, and Raspberries; Mr. Kemp being second, and Mr. Cornhill third, each staging good collections.

Vegetables were very well exhibited. The best dish of Beans was Seville Longpod, and the best dish of Peas Commander-in-chief. For a collection of vegetables the prizes went to Mr. King, Wolsey Grange, Mr. Cornhill, and Mr. Croxford in the order named. The best brace of Cucumbers came from Mr. Langstone, who exhibited a new variety—*Empress of India*, a handsome very dark fruit having an intense bloom.

The Exhibition was well managed, the best attention being paid to plants and visitors by Mr. Dean.

### THE REIGATE ROSE SHOW.

THE Reigate Association for the cultivation of Roses held its tenth annual meeting in the grounds of A. J. Waterlow, Esq. It had been postponed from the 24th ult. because of the lateness of the season, and an excellent Show justified that generally undesirable proceeding. Under the fostering care of its two presidents—Mr. Wilson Saunders, F.R.S., of world-wide floral fame, and now Mr. Baker—the Reigate Association has been gradually educating its members into an advanced stage of Rose-growing, so that, as has been lately seen in the great London contests, its members can encounter with success the first amateurs in England. At present this Association keeps all its good things for itself, unlike its once foster child the Maidstone Association, which collecting the trade and amateurs from all parts of the kingdom, has gained the glory of having this year the best show of the season.

Reigate has no strangers' prizes; the chief interest of her Show centres in three challenge cups—the ladies' cup for the best twelve Roses, to which is annexed the onerous task of winning it at three consecutive shows; the cup for the best twenty-four, and that for twelve Teas, which latter will be taken whenever they have been won three times by the same individual. Mr. Sargent having won the twenty-four cup twice, and being fresh from the scenes of his victories at the Westminster Aquarium, great interest and expectation were excited by his competition. But the glories of the day were with the house of Waterlow; in every class its Roses were unapproached. Two cups were assigned to them, the third, or ladies' cup, being won for the second time by Captain Christy. The members are to be congratulated on the excellence of the Show. The twenty-fours were pronounced by the Judges of a high excellence, and such as would have held their own in any competition. The bouquets and devices were also many in number and much to be admired.

The Judges were Mr. George Paul of Cheshunt, Mr. Francis of Hereford, and Mr. Mitchell of Uckfield.

### TUNBRIDGE WELLS FLOWER SHOW.

JULY 7TH.

Few places can present greater attractions for visitors from London than Tunbridge Wells with its numerous villas and pleasant drives, and there is scarcely any district near London where so much attention is paid to the villa gardens, with their lawns and evergreens and shady walks; but an additional attraction was held out on Friday the 7th, when the annual Show of the Tunbridge Wells Horticultural Society was held in the great Hall and grounds immediately contiguous. The Show has now gone on and prospered till it is second to few country shows, and it is particularly noted for the amount of support that it receives from local gardeners and amateurs; indeed few societies can muster so many good competitors within a limited area.

We entered first into the Hall arranged with six sets of tables, two of which were devoted to Roses, two to table decorations, bouquets, &c., and two to fruits.

We will begin our observations, as in duty bound at this time of the year, to the queen of flowers. Two classes, one of forty-eight trebles and another of twenty-four trebles, were devoted to the nurserymen. In Class 1 (forty-eight trebles) Mr. Mitchell, Piltown Nurseries, was first. Amongst his were some very fine examples of Marie Rady, Marie Baumann, always beautiful for form; Henri Ledechaux, fuller and larger than it is usually exhibited; Joséphine Malton, Baroness Rothschild, exhibited in

great perfection in many stands; Madame C. Joigneaux, Monsieur Noman, &c. There was also a promising seedling of the type of *Senateur Vaisse*, and a sport from *Clemence Joigneaux*, almost the colour of *Capitaine Christy*. The second prize fell to Messrs. Bunyard & Son of Ashford—a good collection, well set up, but not so large or fine as Messrs. Mitchell's. Amongst others they had very good *Maréchal Niel*, *Mlle. Eugénie Verdier*, *Fisher Holmes*, *Baroness Rothschild*, and *Madame Willermoz*. Mr. Piper of Uckfield was third with smaller compact blooms, amongst which were good specimens of *Jean Rosencrantz*, *Jean Chérpin*, and *Miss Ingram*. There were four other collections.

In twenty-four trebles there was a very close competition for the first prize between Mr. Piper and Mr. Knight, and Mr. Bunyard was a very good third. We need not particularise Roses in these stands, except to name two very beautiful blooms of *Louis Van Houtte* in Mr. Knight's stand. *Miss Ingram*, *La Fontaine*, *Comte de Paris*, and *Madame M. Rady* were also well exhibited in Mr. Piper's stand. There were four classes for amateurs and gentlemen's gardeners, and rarely have we seen closer or better competition than in Class 17 for twenty-fours and 18 for twelves.

In Class 17 there were seventeen entries, and three extra prizes were awarded besides the first four which were allotted. Mr. A. Gibson exhibited a very fine collection, which would have done credit to any show both for colour, size, and quality. Amongst others a most perfect *Dupuy-Jamain*, very good *La France*, *Marie Rady*, *Maréchal Vaillant*, and *Duke of Edinburgh*. The second, third, and fourth were but little inferior. In the second were very good specimens of *Etienne Levet*, *Dupuy-Jamain*, and *Baroness Rothschild*.

Class 18 had twenty-three competitors, and here again the competition was very close; but the twelve shown by Mr. H. Bensted were most uniformly good, indeed we have rarely seen a better twelve: amongst them *M. Lacharme*, a bloom which would have rejoiced the heart of "D." of Deal; *Maréchal Niel*, very good; *Charles Lefebvre*, the best in the room of its kind; *Reynolds Hole*, with more petal and substance, and more nearly approaching his or her synonym (by the way, the genus *Rosa* is feminine; how about those Roses, as *Reynolds Hole*, *Charles Turner*, *Rev. J. B. Camm*, *Rev. H. H. Dombrain*, &c.?). *Alfred Colomb*, *Xavier Olibo*, and *Camille Bernardin*. The worst Rose in the lot was *Capitaine Christy*, and if we mistake not it will not long enjoy high honours as an exhibition Rose. It is apt to open flat and to discolour. Mr. Ridout, who had the second prize for twelve singles, had some very good specimens of *Camille Bernardin*, *Reynolds Hole*, *Exposition de Brie*, unusually good; *Marie Baumann*, and *Pierre Notting*.

Class 19, twelve Teas and Noisettes, had nine entries, and there was a much better and closer competition for them than usual; but somehow or other, beautiful and sweet as Teas and Noisettes are, they never make a really good show when set up together, and yet unless exceptionally good they very often let down a stand of Hybrid Perpetuals. The best Teas exhibited were *Souvenir d'un Ami*, *Maréchal Niel*, *Souvenir d'Elise*, *Cheshunt Hybrid*—but query, is not this a cross between a Tea and Bourbon with but little Teascent? There is some confusion between Teas, Noisettes, and Bourbons. For instance, some call *Maréchal Niel* a Tea, whereas it is a Tea-scented Noisette; and *Gloire de Dijon* a Tea when it is more than four parts Bourbon. *Gloire de Bordeaux* again, *Madame Levet*, *Louise de Savoie* are much nearer Bourbons than Teas.

Class 20, a level class, twelve single blooms, not less than four had some good Roses; but we think it would be better to make it six or eight singles, separate varieties, or at once four trebles, as it is rather confusing some with four, some five, six, seven, eight, nine, &c., varieties.

So much for the Roses, which does not leave us much space for the other exhibits. There were very good collections of table decorations, though with the exception of two, one of Poppies, white Dog Daisies, and dark purple-leaved Beech; and another a single vase with yellow *Enothera* and purple-leaved Beech, evidently by the same exhibitor, there was nothing new or different from what we generally see exhibited; still the first prize both for three pieces for table decoration and for one piece, and the second prizes were good. We could almost wish we could get rid of the stereotyped Grasses, blue Cornflowers, &c.

There was a very large entry for vases of wild flowers, and as a rule exceedingly good. We could have wished the one with white Water Lilies had been noticed by the Judges. We counted forty-seven entries for pairs of button-hole bouquets, but the quantity was greater than the quality.

We must not stop to particularise the Fruit, but the competition for Grapes was good, and also for Melons, and there were some very fine Peaches and Strawberries, Sir J. Paxton as usual to the fore.

There were three tents for the plants. Mr. Ward, gardener to F. Wilkins, Esq., Leyton, was *facile princeps* in stove and greenhouse plants, and unless we are mistaken in everything he exhibited, his eight stove and greenhouse comprised three very good *Ericas*, *Stephanotis*, *Bougainvillea glabra*, very evenly bloomed; *Clerodendron Balfourii* as usual very

good; *Anthurium Scherzerianum*, and *Ixora javanica* var. *floribunda*. He was the only exhibitor for six stove and greenhouse plants, and also for the *Ericas*, but they would not have been excelled easily. We must also notice a single specimen of *Anthurium Scherzerianum* variety *Wardii*, with six of the finest spikes we have ever yet seen, the spathes from 6 to 7 inches long and 4 wide.

In the same tent were very good *Caladiums* and foliaged *Begonias*, very fine *Selaginellas*, the first six being grown in a pyramidal shape, and far more effective than the usual flat pans so often exhibited. The zonal *Geraniums* were not particularly good. The first-prize plants were large and the blooms fine, and the plants not too much tied out. The *Fuchsias* as a rule were good, and also the *Ferns*, especially the first and second-prize collections.

In another tent were staged zonal *Tricolors* and *Bicolors*, fancy and large *Pelargoniums*, and *Coleuses*. There were four very good collections of six *Coleuses*, the first-prize having a very fine *Duchess of Edinburgh* and good specimens of *Beauty of Widmore*, *Roi Leopold*, *Her Majesty*, *Princess Royal*, and *Princess Beatrice*. The *Pelargoniums* do not call for much comment, though in the second-prize group were some very fair seedlings. The *Tricolors* and *Bicolors* were both badly coloured, and the fancy *Pelargoniums* only moderate. In this tent were two miscellaneous collections attractively arranged.

In a third tent were the cottagers' exhibits, and which, especially for fruit and vegetables, were most creditable to the district. One dish of Sir Joseph Paxton Strawberries were scarcely equalled, certainly not surpassed among the amateurs; and the kidney and round Potatoes were very good and fine for this late season—far more fit for exhibition than we should have expected. The Cabbages, perhaps, were somewhat large, but what would have disqualified them if shown by a professional gardener is certainly a fault on the right side in cottage-garden collections.

Our remarks have run to a great length, but we may conclude that with a fine day, a good show, and a goodly muster of the ladies and gentlemen of the neighbourhood, we have all the elements of a successful exhibition, which this one we are now chronicling decidedly was.

### ROSES FROM CUTTINGS.

As there seems to be some uncertainty as to which of the Perpetual Hybrid Roses may successfully be propagated by cuttings for outdoor growth, I subjoin the names of some in my possession, in the hope that an expert will tell us which of them it is undesirable to attempt to propagate in the above way. I take it for granted that all Teas, Bourbons, Chinas, and hybrids of these may be used.

Alfred Colomb, Antoine Ducher, Annie Wood, \*Baronne Prevost, \*Boule de Neige, Charles Lefebvre, Charles Turner, \*Dr. Andry, Duc de Rohan, \*Duke of Edinburgh, \*Edouard Morren, \*Elie Morel, Ferdinand de Lesseps, \*Général Jacqueminot, \*John Hopper, La France, Ville de St. Denis, Le Rhone, Louis Van Houtte, \*Madame Lacharme, \*Madame Victor Verdier, Madame W. Paul, Mdlle. Bonnaire, Mdlle. Eugénie Verdier, Marie Rady, \*Marguerite de St. Amand, \*Marquise de Castellane, \*Mons. Woolfield, \*Prince Camille de Rohan, Senateur Vaisse, Star of Waltham, Abel Grand, Marie Baumann.—A. J.

[Nearly all the varieties named in your list will strike from cuttings; those marked with an asterisk (\*) we know will do so most readily. Any Roses will strike root by the simple process of layering or tonguing the shoots. Forty years ago our Roses were all propagated in this way, and now, perhaps, for amateurs the most certain way for procuring Roses on their own roots is to obtain in November bushy plants of any Perpetual on the Manetti or other rootstocks, tongue or pare-up a little strip of bark about an inch long with an eye in it near the base of each shoot, then plant the tree in a trench as for Celery and earth-up over the tongued parts. You can take the parent plants up in the following autumn, when each tongued part will have a growth of roots. Split these off and replant.]

### CASTLE COCH VINEYARD.

HAVING had a look through the experimental vineyard at Castle Coch, I think a note of the present appearance of the Vines may be acceptable to the readers of the Journal.

The growth of the Vines is clean and extremely healthy: not a single leaf is to be seen affected by the cold month of May which we experienced in this county, which is saying a good deal for the naturally fine situation of the spot selected.

The majority of the canes are to the top of the stakes, and some (July 5th) are being stopped at a foot above it. In the

whole (nearly three thousand) I could not detect any failures; and from the present forward appearance of the canes there is good prospect of their ripening well, on which certainly success depends. The damp winters experienced along this side of the British Channel being quite a secondary consideration, the natural drainage being perfect and the loam unexceptionable to the full depth moved—viz., 3 feet.

Of course there is the contingency of wet autumns preventing the ripening of Grapes; but all interested in horticultural experiments will wish the trial success.—R. C.

### EXHIBITORS' WRONGS.

We think some recent proceedings are specially worthy of notice, to show the difficulties exhibitors labour under, and we hope some standard rules may be suggested for the guidance of judges and for rendering schedules more explicit. At the Aquarium several pretty epergnes were disqualified because they were not "vases." Turning to Johnson's Dictionary, we find "Vase, a vessel generally for ornament." Would this not apply to an epergne, or did the Judge expect a garden ornament, and in revenge awarded the first prize to a flower pot as coming nearer the views of a vase? 2nd, A table decoration was disqualified, but highly commended, because it would be more appropriate for a larger table; yet they overlook the fact the schedule specifies a table completely laid in every particular for fourteen persons, and they allot a space scarcely large enough for ten at most. At the Botanic Society a table which proved so attractive visitors had difficulty in getting near to it, and which was purchased by a visitor, was disqualified on some grounds, although prizes were awarded to tables, or rather decorations, which if on a table fully equipped would have been even more crowded than the fully appointed and disqualified table.

Another cause of complaint is withholding prizes because there is but one entry. If this is fair, would it not be reasonable to expect the Secretary, who knows at least three days beforehand, to inform the intending exhibitor and save him the expense? To say the least, it is hardly likely to stimulate the trade to contribute to the shows, and insure the great success they require to keep the Societies in funds.—DICK RADCLIFFE & Co.

### MR. JOHN PEARSON'S NURSERIES, CHILWELL.

I HAD long been desirous of visiting Mr. Pearson, having read many years ago of his orchard houses being famous for producing large crops of Peaches and Nectarines on the bush or pyramid system. But orchard-house culture is not the special feature at these nurseries now; the trees are grown to sell as well as to produce fruit, and very clean and healthy the trees are, although a large number of specimens have been disposed of this and last season. Mr. Pearson's fruit trees are always kept under glass, and no doubt this is the best way in cold wet districts; but we find in the neighbourhood of London that it is not essential to the health of the trees to keep them in the house all the winter. We have a large number of fruiting trees at Loxford, and all of them have been turned out of doors in the winter for the last ten years, and when they are taken in from the plunging material in January or February, it is found that the roots are in an active state, growing quite freely.

The soil at Chilwell seems well adapted for the culture of these trees. I noticed the "maidens" that had been potted-up to produce fruiting trees for next year were very strong, and they were making splendid growths. These two-year-old trees will sometimes produce very fine fruit. I potted a "maiden" Pine Apple Nectarine in a 10-inch pot once, and pinched in the growths twice during the season, and the year following I gathered from that two-year-old tree six Nectarines which gained a first prize at one of the London exhibitions, and they were very much admired. The tree of course was carefully tended, but all first-prize fruit must be well cared for, whether it is grown on large or small trees; and such trees as are grown at Chilwell will surely produce fruit next season.

There is one thing greatly in Mr. Pearson's favour, and that is the quality of the glass houses. There are a dozen or more large span-roofs, and as many of a smaller size adapted for *Pelargoniums*; and they are built to last, not tumble-down sheds that would not last a decade, but they are such as would stand for fifty years, and the workmanship is a credit to any builder. There are also some improvements in their con-



struction worthy of being universally adopted. One of these is in the system of glazing. The glass, instead of being cut in a straight line, is rounded like a cheese-cutter or the blade of a turfing iron; this causes the rain to run down at the middle of the glass panes, and quite prevents the water from soaking down between the glass and sashbars. The under sides of the bars are also constructed with a runnel from the top to the bottom of the house, and all condensed water is carried down this runnel to the wall-plate, so that there is no drip either from condensation or rain. The top ventilator is moved by machinery, which is worked by a wheel and axle outside the houses. A man can move the whole top ventilation of a house 100 feet long with apparent ease, and the apparatus when opened to its fullest extent prevents any rain from reaching the plants underneath. The ventilation and glazing adopted by Mr. Pearson is as perfect as any that I have ever seen.

There are some very good Grapes of the old-established sorts grown, but the houses are not specially intended for Vines, as many other plants are grown in them for the greater part of the year. In a lean-to house are the famous seedling Vines which Mr. Pearson has raised by crossing with the American varieties. Here are the original canes of Mrs. Pearson, Golden Queen, and the Chilwell Alicante. If I remember rightly Mr. Pearson received a prize, given through the Royal Horticultural Society, for Golden Queen, as the best new fruit of that year. It is one of the richest-flavoured white or golden-coloured Grapes that has yet been raised; the bunches are large and shouldered, and the berries large. Mrs. Pearson is a distinct-flavoured white Grape which I have not yet tasted, but it is said to be superior even to Golden Queen. Besides the above there were raised, previous to this, Dr. Hogg and Ferdinand de Lesseps. The first-named is the best Frontignan, round-berried white Grape; the bunches and berries are much larger than the old White Frontignan, or Chasselas Musqué. Ferdinand de Lesseps was raised by crossing the Strawberry Grape by some of our English varieties. It is Strawberry-scented, and a delicious-flavoured golden-coloured Grape.

The pot Vines were in excellent health, including a large quantity of Golden Queen and Mrs. Pearson. The Black Muscat of Alexandria (Muscat Hamburg), is worked upon the Frankenthal or Hamburg stock; but I think if Mr. Pearson has opportunity he should try it upon the Muscat of Alexandria. Mr. Pearson had something to show by way of experiment in one of his houses of young Vines. One particularly healthy Vine making most vigorous growth was pointed out as one that had fifty-three wireworms in the soil. This was done to prove that this pest does not injure the roots of Vines; and most conclusively has it done so, for the plant was turned out of the pot a few days after my visit, and the greater number of the wireworms were alive and well; but they had not grown fat on the Vine roots. Many gardeners in Britain will be glad of this conclusive experiment, and will not spend their time in hunting for a few wireworms that may be in the turf used to make their Vine borders. The Vine borders at Loxford Hall were made almost entirely of turf that contains quantities of wireworm, but they were not picked out, and the Vines have flourished from the day they were planted until now, producing annually many first-prize Grapes and healthy clean foliage. On the other hand, the wireworm is an intolerable pest to the Carnations, and many fine plants are destroyed by it annually, although all the soil is picked over two or three times before using it.

One of the greatest attractions at Chilwell at present are the seedling Zonal Pelargoniums. There are many hundreds flowering this year for the first time, and hundreds more that have been marked and are now being rapidly propagated to be sent out. One of the best, and it has been out some years, is Corsair. I have not yet seen it planted-out in beds, but it would certainly be a good bedder from what I have seen of it in a mass. I noted Mrs. Walter as being a very fine variety with golden tricoloured leaves; the light crimson zone and yellow margin was very striking. Lady Sheffield is a plain-leaved sort with bright rose-coloured flowers. H. S. Stanhope, very dark crimson; Mrs. Walker, crimson; and Livingston, deep rich scarlet; Colonel Seely is a very bright scarlet. All the above are distinct, the habits of the plants good, and the trusses large and held-up on stout stalks. Many of what Mr. Pearson thinks his best flowers were not out at the time of my visit. Some other good varieties have been recently noticed by Mr. Muir.

There is also a very large span-roofed conservatory which contains a fine lot of healthy plants, the most useful amongst

them being the Azaleas, of which there is a superior collection. I made a few notes of some of the best and most useful for decorative purposes. Charmer is a very good sort, with large well-shaped rosy purple flowers. Eclatante has deep crimson flowers shaded with dense purplish crimson. Mdle. Marie Lefebvre, fine white. Mdle. Marie Van Houtte, white with rose stripes, is a fine sort. Comtesse de Beaufort, pale rose, upper part of the petal crimson. Mdle. Leonie Van Houtte, very pure white with rose marking. Due de Nassau, a good old sort with rosy purple flowers.

A large number of early-flowering Pelargoniums of the large-flowered or show section are grown for cut flowers early in the year, and well adapted they are for this purpose. Bridal Bouquet is one that should be grown everywhere; the plants were covered with a profusion of pure white flowers with a delicate rose blotch on the upper petals. Digby Grand is also a fine free-flowering variety; the flowers are fringed pure white, with a dark blotch on the upper petals. Like the rest of the productions at Chilwell, all the plants in this house are clean and well cultivated.

I ought not to omit noticing two immense Rose bushes which were growing in the orchard house. One is Lamarque, and under glass the flowers were white, though they may be described as pale straw when grown out of doors; they were produced in great abundance and of fine quality. The other was a grand plant of Maréchal Niel, which produces annually between two thousand and three thousand flowers. These two are the best Noisette Roses, and should be grown wherever space can be had under glass. They should be planted out.

Mr. Pearson has a well-kept lawn adjoining his house, on which there are some handsome coniferous trees, Pinus macrocarpa and Cupressus Lawsoniana being large and very perfect; and here the new bedding Pelargoniums are tested in small beds cut out of the turf before they are recommended to the public.

I cannot conclude this short notice without giving a meed of praise to a younger son of Mr. Pearson, who has had a considerable part of the management during his father's illness, and who seems quite as great an enthusiast as Mr. Pearson both in plant and fruit culture, and I must also thank him for the great pains he took to show me everything in the construction of the houses and the culture of the plants and fruit trees.—J. DOUGLAS.

## ASPECTS OF NATURE.—JUNE.

"The mead is our study, and Nature our book."

WHATEVER may have been the character of the weather during the earlier months of the year, June generally brings us a time of full summer, a season when we may take extended rambles in the country and still enjoy "the long sunny lapse of a summer day's light," for our return when wandering in woods and lanes, rambles on moor or in meadow, will give us the largest bouquet of wild flowers that it is possible to gather during any time of the year; indeed, so many lovely blossoms are around us, that the great difficulty is to know which to choose for emblems of Flora's garland for the month; but as the Rose has been chosen queen of the parterre so will we make her first among wild flowers of June. The Briar is in the resplendence of her beauty, and hangs her pliant blossom-decked sprays over every hedge, or twines around the Oak sapling in the copse, and in companionship with the Honeysuckle or Eglantine hangs graceful festoons of foliage and flowers across many an unfrequented path. To the uninitiated all wild Roses are alike; but those who have gathered them with affection and sought them in different habitats have learnt to distinguish several varieties, from the deep rich petals of the darkest, down through all the shades of pink to pure white. Nor are the foliage and growth of all similar, for beyond those which have lighter or darker green leaves, more robust or more pliant stems and branches, the beautiful sand Rose is distinct in all its features, growing as it does on low sandy hills, exposed to the bleak winds which blow from the ocean. Its natural growth is that which best befits a plant that has to bear the beating of many storms. The finest specimen is indeed but a low shrub thickly set with branches rising almost from the base, the leaves being of a deep rich brown, much serrated and very small, the beautiful pure white flowers being strongly scented. Every stem is clothed with fine but numberless spines, as thick as those on a Moss Rose, and it is these, doubtless, which protect the hearts of the plant from being choked up during its early growth by the thick clouds of sand



which every wind blows over it. On one particular part of the Cheshire coast, between the mouth of the Dee and that of the Mersey, close to the rocks so well known as the Red Noses, the sand hills which skirt the shore are, or were a few years since, covered with these fragrant Rose bushes, and where a little soil had mixed with the sand the wild Thyme and the close-growing Miller's Thumb made a carpet of purple and gold beneath them. On the opposite shore of the Mersey a low, level, and somewhat marshy plain stretches for miles along the coast, and here, just protected from wind and wave by the continuous heaps of sand which accumulate about the Arundo or Bent Grass, so plentifully growing in the neighbourhood, are rich stores of wild flowers too numerous to name. Among them the wild Mint is so abundant that its scent is inhaled with every breeze, and every footstep crushes out a richer fragrance. Here also grows the beautiful Grass of Parnassus with its solitary ivory cup, so exquisitely veined, so purely white.

Beautiful as are the woods at this season, they are excelled in floral splendour by the banks of streams and the edges of marshy meadows. Such spots are gorgeous with bloom, and set with an enamel where all shades of colour blend or contrast to form a harmonious whole. Great patches of Forget-me-not still clothe the river's brink and stretch their lovely blossoms towards the stream; while growing beside them in many places, and pushing its tender green shoots clothed with bright yellow flowers, is the Moneywort, the Creeping Jenny of the London markets. Both plants love moisture, and grow to perfection on moist banks beneath the shadow and protection of bramble and thorn. Not only the sides of the streams, but the water itself is rich with beauty, for

"The Lilies have spread their bells  
O'er all the pools in the forest dell's."

And not only there, for the ponds and streams of open meadows and park have gathered to their bosoms the broad floating leaves and brilliant cups of the Lotus and yellow Water Lily. The elegant tall reeds and numerous aquatic plants are now coming to perfection, and fringe the streams with graceful foliage, Narcissus-like admiring their own reflections in the limpid water. Along the hedges of low-lying lands, by river or streamside especially, the beautiful wild Guelder Rose is now in full bloom; and though the flower is not so large nor double as that of the garden variety, it is quite as interesting with its outer crown of cruciform florets around the lesser florets that form the centre.

The forest trees are now all arrayed in the fulness of their foliage, realising Spencer's description—

"Then came jolly Summer, being dight  
In a thin silken cascock colour'd Greene,  
That was unylned all to be more light;  
And on his head a garland well besene  
He wore."

June is the month above all others of sweet scents, when the air is loaded not only with the rich perfume of new-mown hay, but the delicate odours of Honeysuckle are wafted on the breeze, and the Beans now in full blossom exhale the perfume of honey so strongly that it is but natural to find their myriad blossoms being rifled of their nectar by the ever-busy bee. The Bean fields in flower inspired one of the happiest chapters in Alphonse Karr's "Voyage Autour de Mon Jardin."

At the beginning of the month the Grasses in the meadows bend their heads to each passing breeze, reflecting in waves of light or shade every gleam of sun and every flying cloud.

After extreme heat how delightful is the change to rain, when the parched earth sends forth her rich moist smell, as though diffusing a natural incense in gratitude for timely showers! The advent of rain in summer is thus exquisitely described by Thomson:—

"Gradual sinks the breeze  
Into a perfect calm, that not a breath  
Is heard to quiver through the closing woods,  
Or rustling turn the many-twinkling leaves  
Of Aspen tall.

At last  
The clouds consign their treasures to the fields,  
And softly shaking on the dimpled pool  
Prelusive drops, let all their moisture fall.  
In large effusion o'er the freshen'd world."

But it is not alone that the hedgerows and meadows are gay with flowers—that the graceful wild Bryony and beautiful Belladonna appear about the hedges, that fields are enamelled with Flora's wildlings of every hue. Insect life is this month in its strength and beauty. Glow-worms show their

tiny lamps in the damp moss, and may at eventide be supposed to light

"Those fairy elves  
Whose midnight revels by a forest side,  
Or fountain, some belated peasant sees—  
Or dreams he sees; while overhead the moon  
Sits arbitress, and nearer to the earth  
Wheels her pale course."

The field crickets also chirp their evensong during the month of June, when the hum of busy human life is stilled, and "the toilworn coter fra his labour goes" to rest awhile and enjoy the cool shades of evening at his cottage door. As the season advances and the insects increase in numbers, as the beetles of all the bright and varied tints of the rainbow may be seen gemming the ground at eventide, or resting during the heat of the day under the leaves on some sunny bank, or hiding in the petals of a Rose; as the chirrupings and drowsy hummings of the insect tribes increase, the songs of the birds are hushed; and as the month declines the lonely whistle of the stone curlew is heard at night, and during the day the occasional pipings of the goldfinch, yellowhammer, and golden-crested wren.

"The groves, the fields, the meadows now no more  
With melody resound. 'Tis silence all,  
As if the lovely songsters, overwhelmed  
By bounteous Nature's plenty, lay entranc'd  
In drowsy lethargy."

—T. S. J.

## EATON HALL,

THE SEAT OF HIS GRACE THE DUKE OF WESTMINSTER.

UNLIKE Chatsworth or Trentham, Eaton Hall owes but little to the beauty of its situation or the grandeur of its surroundings. The princely seat of the Dukes of Devonshire stands so grandly amidst its wooded hills; and the hardly less beautiful seat of the Dukes of Sutherland by the side of the shining Trent is so exquisitely rich and lovely, that the magnificence of the residence seems to be lost in the beauty of the setting. Few places could compare with them in these respects, and most certainly not Eaton. It is true indeed that there are lovely views to be obtained from it, as when standing on the front terrace the eye rests on the old ruins of Beeston Castle, which all travellers by the London and North-Western line must remember; or from the back of the house a distant view of the Welsh hills is obtained; while ever and anon the glistening of the Dee appears through the foliage like a silver thread, adding, as water ever does, so much charm. But withal Eaton is inferior in natural beauty, I think, to the other two: or is it that one has seen the others first and the charm of their beauty has made one fastidious? It may be so.

The Hall itself is undergoing a complete transformation, the taste of the present owner not being satisfied with the florid Gothic of Edward III.'s times. Indeed it has been altered and rebuilt several times. A brick mansion from the design of Sir John Vanburgh stood upon the present site; this was taken down in 1803, and a magnificent building from designs by Porden, combining Gothic with some details of the Tudor architecture, was erected on its site. This is now giving way to what will be when completed a magnificent specimen of the Renaissance style, one of all others best suited for elaboration of detail and for general convenience and comfort. At present scaffolding and an army of masons and sculptors have possession of the building, but amidst their confusion some idea of the future beauty of the building may be obtained; and when one recollects that in the course of some years the estimated income of the dukedom of Westminster will be a million of money, it will be readily understood that nothing will stand in the way of its being made worthy of the noble name of Grosvenor.

But neither my tastes nor the interests of the Journal draw me much towards architecture. I have to tell of its gardening and surroundings; and it will be readily conceived that under the care of Mr. Selwood, a favourite pupil of Mr. Stevens of Trentham, there is little lacking here, where a liberal and generous-hearted employer is ever ready to second the efforts of all who serve him. Hence in whatever department of the garden one looked there was evidence of care and skill. Instead of entering into minute descriptions of the houses, their position and contents, I shall rather indicate those points which most struck me as noteworthy—for in all these large places there must of necessity be similarity in many respects, the points of difference being really the points of interest—

leaving aside the size of the houses, their number and situation, as matters which may readily be imagined.

The soil of the garden and the park generally is red sandstone, and is found to answer well for Figs, Peaches, Roses, and Melons, and of this there was abundant evidence as we went through. There is one remarkable Fig pit, which was planted thirty years ago, and which produces an enormous quantity of Figs every year. The plants never grow above 3 or 4 inches annually, but nothing could be better than their appearance, and it struck one as a most convenient way of growing this luscious fruit, the excellence of which we are beginning to appreciate. The pit is a plain one, such as is used for Melons and Cucumbers, although of course considerably sunk. The trees are planted closely in it, so that one sees only a dense mass of foliage. Melons were grown as well as Cucumbers in houses, and the crop of the former was something remarkable; the variety grown being Colston Basset, of

which Mr. Selwood speaks highly, and another (as is usual in these large places) a favourite one originated in the place, and a sight more suggestive of good culture and favourable conditions than the Melon house it would be impossible to see. This is the first place that I have visited where I have seen the effects of that wretched insect the Phylloxera. Two whole houses of fine vines had been sacrificed, for Mr. Selwood is of opinion that no milder measure than that of stamping it out will suffice. He believes it to have originated with some vines brought in, and now that he has planted the houses afresh he has been most careful to guard against its introduction. The vines have been taken out of the pots, the roots well washed, and then laid out separately to dry, and no soil but that which is obtained fresh from the park is used. By these precautions he hoped to avoid its introduction again; and the vigour of the plants and their rapidity of growth bore witness to the fact that the treatment had not interfered with them. With

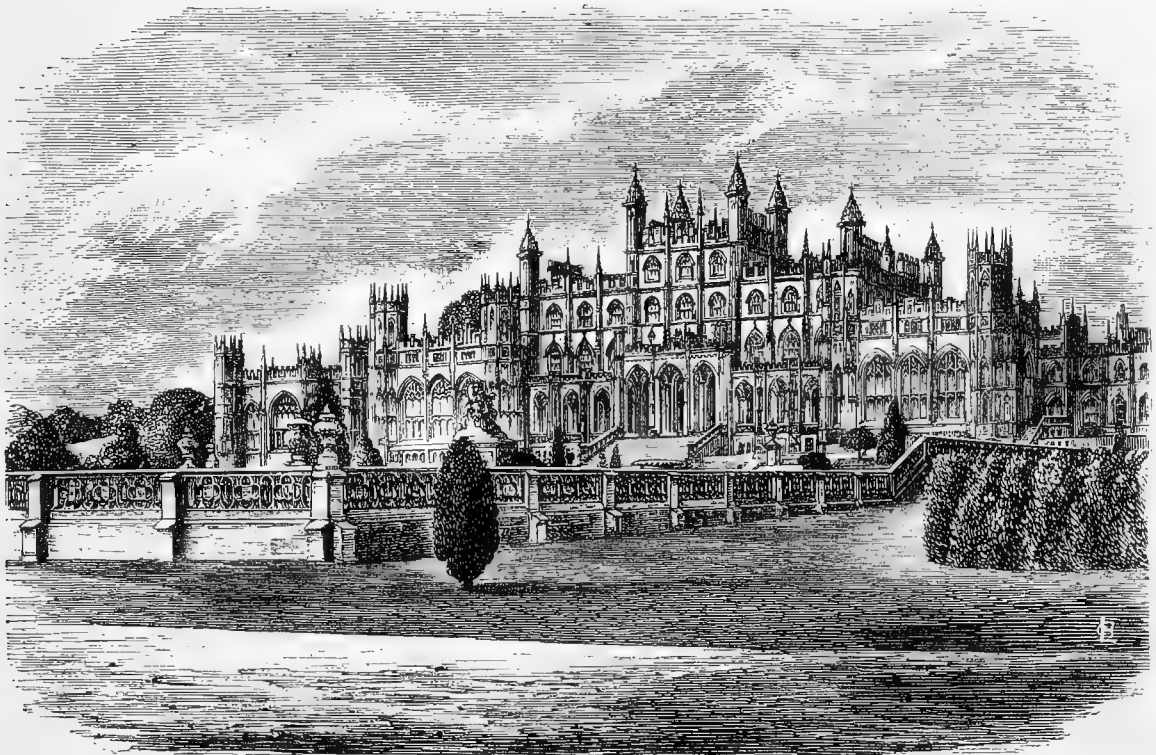


Fig. 4.—EATON HALL.

regard to Strawberries one has to live and learn, and to see how utterly useless it is to write up or cry down any Strawberry from one's own experience. Here the only variety which is found really to answer either for pot culture or out of doors is Sir Harry, a variety that a great many Strawberry growers have discarded. I both saw it and tasted it; and although it lacked the fine flavour of Dr. Hogg and others of the British Queen section, yet the fruit was both large and well flavoured. Therefore all who say only this or that variety is worth cultivating should simply add, in their experience. I found the Peaches in great vigour. Early Magdalen is much liked, being ten days earlier than Royal George.

One of the most characteristic features of the gardens here is a noble glass corridor of 400 feet in length, from whence houses open containing various stove and greenhouse plants. It reminds me of one I think I saw some years ago at Denbies. This corridor is planted with Roses, climbing plants of various kinds, and filled from time to time with plants from the greenhouses. Amongst the Roses which were doing well here was *Eugène Desgaches*, a variety very little grown, and *Cheshunt Hybrid*, of which Mr. Selwood spoke in very high terms—almost as highly as does my friend Mr. Camm in last week's Journal. It is to me a matter of great satisfaction that this Rose is increasing in favour, for I have always maintained that it would be a favourite; and yet how it was sneered upon

by some when it was first exhibited by Mr. George Paul! The exterior of the corridor is planted with the various new varieties of Clematis.

The stoves contained some fine specimens of Orchids, and were really shining with fine masses of *Begonia nitida*, whose snowy whiteness makes it a most desirable plant for winter bouquets; here it is in great request. Amongst Orchids *Dendrobium filiforme* and *Dendrobium Bensonia* were very fine. It may give some idea of the extent to which flowers are used in such an establishment to hear that three thousand *Euphorbia jacquiniæflora* and *Poinsettia pulcherrima* are used, and other flowering plants in similar proportions. Some time ago an engraving was given in a contemporary of the *Eucharis* house when in full flower, and a wonderful sight it must have been. Now the large plants have been broken up, but very great numbers are still grown.

In the greenhouses and conservatories for winter-flowering plants there is always a large quantity of rare and beautiful plants in bloom. In one the whole roof was covered with *Allamanda cathartica*; while Ferns, *Scutellaria*, *Heterocarpos*, and other plants at the time of our visit made it gay. The Ferns were many of them grown in pans, which were sunk in the beds and thus hidden from view; in another *Camellias* and *Azaleas* were flourishing. The former had been transplanted three or four years ago, and were in wonderfully fine

health. In another Tea Roses ranged at will, and the house was filled with very fine plants. Maréchal Niel had been very grand, but Mr. Selwood found, as a good many have done, that it either blooms itself out, or else that it is a short-lived Rose. I have seen so many this year of what one must write that their glory is departed, that I fear it will require constant renewal, and its claim to be regarded as a good out-of-doors Rose is become weaker every year. Among the unusual things grown in another house was *Musa Cavendishii*, which is grown in considerable quantities for the sake of its fruit for dessert.

Leaving the garden and its varied contents, of which one can give no more than a mere outline, we were brought by Mr. Selwood to the Tea House as it is called, a most perfect gem, situated in the shrubberies; the interior has the walls covered with encaustic tiles from designs by Marks, the R.A. One scene, illustrating Shakespeare's Seven Ages of Man, was most spirited and has been greatly admired, as it well deserves to be, while horticulture finds its place in some representatives of real and fancied flowers, displaying great spirit in drawing and much originality in colouring. Attached to it is a small kitchen with range, where the young ladies of the family prepare the meal when they use the Tea House. It is certainly one of the most charming pieces of thorough artistic work that I have seen for a long time. Coming back through the shrubberies we came on to the front of the house. Here all is also in a state of transition. There are a series of terraces (some five or six in number) reaching down to the river Dee, and these are being altered under Mr. Selwood's superintendence. They had been laid out in some of Nesfield's abominations, but now for American and other plants; and when completed, in the able hands of Mr. Selwood, they will doubtless form a fitting accompaniment to the grand mansion now being erected. In a portion of the grounds near the house there is a Gothic temple, built for the reception of a Roman altar found near Chester, bearing the inscription that it had been erected by the twentieth legion to the fountains and rivers. Leaving the house and descending to the banks of the river we come on a fine iron bridge erected over it, and near it is a small lodge, which has been erected by the noble proprietor for the benefit of picnic parties, who can be here supplied with all the requisites for their *al fresco* enjoyments, and noteworthy for having a remarkably fine specimen of *Ceanothus* growing over it.

The engraving illustrates the Hall as it was until very recently. The Grosvenor Gate by which the demesne is entered close to the city of Chester, a copy of St. Augustine's Ally Gate at Canterbury, through which I have passed many a time as a boy when it was used as a skittle ground, but now happily turned to nobler and better uses as a missionary college, and the river house above spoken of. In a few years the visitor will have much to say of Eaton Hall, for after the completion of the house there is little doubt that the garden will experience the same outlay, and will be made worthy of the noble mansion to which it is attached. I have to express my thanks to Mr. Selwood for the kindness with which he showed us his treasures, and to the kind friend who accompanied me, and to whose good offices I owe the enjoyment of a very delightful day.—D., Deal.

### SYRINGING.—No. 3.

It is not practicable to give any generally applicable directions for the distribution of water by the engine or syringe to the foliage of plants, but a few hints in reference to the matter may not be unprofitable.

In the case of vineries, and especially in regard to Vines which are forced early, it is usual to sprinkle the Vines several times a-day until the eyes break, and with Peach trees in houses a similar practice is resorted to. This practice may assist the eyes to throw off their scales by the softening influence of the water, but that it can or does exert any influence on the flow of the sap, on which the swelling and bursting of the buds depend as well as the growth of the resulting shoots, is extremely doubtful. Heat is the prime instigator of activity; for with cold, though we have water in the soil to its full power of retention, and moisture in the atmosphere to the point of saturation, growth does not take place. And that actual wetting of the rods and spurs of Vines, the branches, shoots, and buds of Peaches, facilitates growth—a more even swelling of the eyes or buds—is extremely uncertain. In fact I have tried both practices—*i.e.*, syringing overhead and omitting it, but affording moisture to the roots and atmosphere, and am bound to say that the results have been invariably in favour of the

practice of non-syringing. It may make a difference when the border and atmosphere has during the resting period been kept dry as dust. Sprinklings may in such cases be necessary to enable the shoots and branches to absorb moisture, and the hardened scales or envelopes of the buds and eyes to be softened so as to admit of their free expansion; but with the soil in a proper state of moisture, which Nature amply provides for, the necessity for repairing any errors of the resting period does not arise, and beyond a few light sprinklings overhead I do not consider any benefit accrues from syringing after the buds or eyes commence swelling. I had this year a vinery and Peach house which were not sprinkled at all, or the evaporating troughs filled with water, until the blossom of the Peaches was showing colour and the eyes of the Vines had broken, and the result is that I shall avoid the drowning practice of starting these subjects in future. In the case of both Vines and Peaches atmospheric moisture is required for growth, but only in the case of artificially heated structures does the necessity arise for sprinklings at an early stage. Cool houses when the borders are in a proper state will give out sufficient moisture to maintain a suitable atmosphere for Peaches until the blossom is set, and for Vines until they are broken, but when leaves are formed we must keep up a moist atmosphere by sprinkling two or three times a-day—morning, noon, and afternoon, wetting every available surface, and in the case of Peaches syringing morning and evening, but not applying water to the foliage at noon, though the house is to be damped. Even in damping considerable judgment needs to be exercised. If the surfaces are moist there is no use in wetting, but if at all dry they should be moistened, and in the case of syringing the leaves ought to be dry before they are again made wet. When artificial heat is employed the evaporating troughs ought never to be empty of water. Artificially heated structures require considerably more moisture than those dependant upon solar heat, except in hot weather, when the difference will not be material.

There is a difference in opinion as to whether any variation ought to be made in the moisture at the time of flowering of the Vines and Peaches. I do not perceive why any deviation should be made. Nature makes none. It certainly is not advisable to syringe Vines, for Nature would never have protected them with leaves above had the inflorescence required wetting; but as to Peaches the blossom is disposed so as to receive descending dew and rain, and yet under glass and even outdoors I have seldom noticed a case of non-setting from a too-dry atmosphere, the border being in a proper state of moisture. Atmospheric moisture is unquestionably necessary to the maintenance in health of the blossom of the Peach and flower of the Vine, an overdry atmosphere causing the drying-up of the stamens and early fall of the petals. In the case of Vines overdryness causes the hood (corolla) to be retained too long; the stamens from their weakness not throwing, the anthers being mostly sterile or too feeble to cast the hood, and united with a pale sickly small ovary and corresponding stigma. Set such blossom and fruit may, but in the case of a Peach it will not swell, and in the case of a Vine the berry will be stoneless. I am not going to the extent of advocating syringing, though that is better than a parching atmosphere, but I do submit that the best set is had in Peaches with a congenial well-aired atmosphere, and with Vines a moist atmosphere is necessary.

I have known instances of both Peach and Vine pollen being as it were bound up by a dry atmosphere which upon the application of moisture has caused its liberation. Syringing in the case of a high temperature and dry atmosphere would ensure the liberation of the pollen, whilst the current of air produced by the passage of the water would tend to distribute the pollen. Still, when a due regard is had to the maintenance of a congenial atmosphere the necessity of syringing in the flowering period does not arise, and, as I accept the term, syringing is likely to be more hurtful than conducive of fertility.

Of the necessity of a congenial atmosphere, but at the same time free from accumulation of moisture, we have abundant testimony in the Melon. Let the roots be dry and cold and the air parched, and the sterility of the plants will be as marked as in a close moist atmosphere. Due moisture for the roots and atmosphere, with free ventilation—the flowers well nourished and the pollen well aired—we need not apprehend any difficulty in the setting of fruit, for in a wet season we may have exuberant growth without a corresponding yield of seed, but in a comparatively dry season we have moderate growth yielding seed abundantly.

Cultivators amateur and professional know well the advantage of a moist atmosphere for the maintenance of flowers in beauty, for when the atmosphere is dry the evaporation is excessive and the petals soon drop; hence the shading of plants in flower, which lessens evaporation and secures moistness in the atmosphere without resorting to sprinklings, which are destructive of the beauty of flowers. An overmoist atmosphere is equally disastrous to flowers as syringing overhead, the flowers of most plants in a close moist atmosphere spotting and not unfrequently decaying. Everybody knows that flowers are damaged by rain and impaired by bright sun, hence syringing is avoided; shade is given, making up for any lack of moisture by more liberal waterings at the roots. Of course this does not apply to the ripening of seed, a flower expected to seed requiring light, air, and moderate moisture.

The growth of foliage and fruit demands moisture, and it is a mistake to leave off the sprinklings which have been recommended when the fruit commences ripening. The ripening of fruit cannot be satisfactorily accomplished without moisture, and any danger of injury therefrom may be avoided by freer air-giving. In cool houses less moisture will of course be required than when much artificial heat is used, but in all instances moderate atmospheric moisture is essential to well-swelled juicy fruit. Exception must be had to fruit such as the Melon, which does not during ripening increase in size. If the moisture be too great the flavour will be insipid, the fruit not unfrequently cracking.

Moisture must in the case of Peaches be continued after the fruiting. The wood for future bearing requires to be matured and the buds to be fed. After the fruit is gathered I again resort to syringing, and do not leave it off until the leaves show that their office is drawing to a close. Peach trees devoid of moisture after the fruit is ripe will become infested with red spider, and the flower buds will certainly drop in the spring.

Plants making fresh growth require a moist atmosphere; indeed, at most seasons of the year moisture is necessary, though considerably less is needed when the plants are at rest. As a rule stoves require from February to October damping and sprinkling three times a-day—morning, noon, and when the house is closed or shortly afterwards. Syringing overhead I do not consider advisable at noon; the main point to be attended to is to afford moisture available for evaporation. Greenhouses will not require any damping during winter, and in summer from April to September damping may be practised in the evening or afternoon from 5 to 6 P.M. Plants liable to insects or in a growing state may be syringed overhead twice a-day—morning and evening, especially the latter; but the ventilation should be good, or the sun falling powerfully upon the leaves whilst wet will cause them to spot. Pelargoniums are so liable to spot, that unless thoroughly ventilated water should not be given overhead, and is best omitted at least after March, avoiding condensation by ventilation at night. Houses in which a high temperature is maintained, as Cucumber and Melon houses, require considerably more moisture than those kept at a lessened temperature, and those in which the temperature is maintained by hot-water pipes will need fully three times as much moisture as those in which heat is maintained by fermenting materials.

As the correct supply of moisture is one of the most important elements required for successful culture, I have come to a few deductions which may be of service. They are as follows:—The leaves of all plants ought to be dry by the time the sun's rays are powerful. If the leaves are wet from the condensation of moisture during the night, air should be early admitted so as to prevent the water from being so highly heated as to scald the leaves, or shade should be given. The principal moisture should be at night, and the foliage of all plants (except the Filmy Ferns, &c.) should be dry for the most part of the day. There is greater need of moisture overhead when growth is being made than when it is mature, but moderate moisture only ought to be given when the foliage or growths are tender. It is usual to insist upon the water which is employed for syringing being of the temperature of the house. This is only important when the growths are tender. Peaches, Strawberries, and Roses have hard-textured leaves, and are prone to attacks of red spider. These after the leaves are full-sized may with impunity be syringed with water 20° less than the temperature of the atmosphere. I have noted the beneficial effects of syringing trees against walls, especially Peaches and Roses, with water in some instances as much as 30° below the temperature of the air. Are we not to attribute the cleansing of the foliage of plants to the lower temperature

of the rain to that of the atmosphere? All moisture—dew and rain, is at a lower temperature in summer than the mean of the atmosphere.—G. ABBEY.

### THE SIR J. PAXTON STRAWBERRY.

"J. J.'s" experience of Sir J. Paxton is identical with mine. In March, 1875, we took a garden (Ryde, Isle of Wight) destitute of Strawberries, and immediately obtained from a famous nurseryman two hundred strong plants in pots of Sir J. Paxton, hoping to obtain little fruit from them that year. The plants grew most vigorously, but not half flowered, and those that did hardly produced any fruit. A friend advised the destruction of all the non-flowering plants, but they looked so strong and healthy we thought we would give them a further trial. In August we moved about half, thinking they were too closely planted, and at the same time put in young plants of all the best kinds of Strawberries—Sir C. Napier, Dr. Hogg, Margaret, Constante, President, Mr. Radclyffe, &c. These young plants are now bearing quantities of the finest fruit. It is impossible to say which kind succeeds best, all are so good. Sir J. Paxton (though double their size and growing side by side with them) is a complete failure. Half the plants again did not flower at all, and have been thrown away. The remainder flowered feebly, but have produced little fruit, and that very small. Yet the plants are of great size, with splendid large leaves and strong runners. We are now removing Sir J. Paxton entirely. Our soil is light but good.—W.

"J. T." (see page 12) must now down the leaves of Sir J. Paxton, and give the plants neither water nor manure, and next year they will bear. Some years ago Trollope's Victoria served me the same. The plants were all leaves, as high as Rape. I treated them as above and succeeded.—W. F. RADCLYFFE.

### THE ROYAL HORTICULTURAL SOCIETY.

In a very few weeks the Royal Horticultural Society will have to be reconstituted. Those who have the charge of this work might, I think, take some useful hints from the Volunteer Rifle Association, which goes on and prospers. The higher and richer classes naturally take the lead, but the association and rifle corps movement embrace all classes, the qualification being the taking an interest in the object. The subscription is one guinea. I believe that if those interested in horticulture and the improvement of flowers, fruit, and vegetables would now all pull together, would join the amended Society themselves and canvass their friends in their districts, we should soon have a strong representative society.

The leading nurserymen have influence. If they will send out with their catalogues and invoices, and back-up a short statement showing how much good work the Society does at its Committee meetings and by its experiments at Chiswick, and pointing out that its work is essentially distinct from that of all local societies however influential, and ending with a strong appeal to all lovers of their gardens to lend a helping hand at once; and if the powerful gardening press will circulate slips with their papers, I believe that such a list of suitable Fellows would come in as would very soon put the Society firmly on its legs. It would, of course, be necessary to prove that the liability of Fellows is absolutely limited to the amount of their guinea subscription. As in the case of the Rifle Association we should be associated with the local societies, and perhaps have one great annual field day, to which representatives would come from all parts of the country.—GEORGE F. WILSON.

### THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 10.

In referring to the nursery of the Messrs. Loddige I should have noted that a publication took its name from that establishment, entitled "Loddige's Botanical Cabinet," which was in course of publication between the years 1817 and 1834, extending to the respectable length of thirty-four volumes. The firm was also remarkable for its dexterity in packing plants so as to enable them to keep their vitality during a long sea voyage, by suspending their natural growth till they reached the climate for which they were intended. This plan seems to have occasioned some wonderment forty or fifty years ago, and was frequently tried successfully with Camellias and allied plants. These were placed in layers and well packed with an



abundance of sphagnum, which was trodden or pressed down as tight as possible. Surrounded thus by a bad conductor of heat, and one which is very reluctant to part with its moisture, the plants had no injury during the transit to our Antipodes, which in these times can be, by the help of steam, managed so much more speedily than in the days of our esteemed grandfathers.

Crossing the Thames, however, to complete my account of Lambeth and its vicinity, I must observe that really the residents in what is sometimes called the "Court Suburb" have no reason to plume themselves upon the name of Kensington, since a despised Surrey suburb can boast of the same name with only the difference of a letter. "Kensington" and "Kennington," as I now consider, are merely modifications of the "King's Town," taking rise in a period when the word "town" was occasionally applied to a solitary abode, supposing it was occupied by a person of importance. The historian of Lambeth I know speaks of Chenintume, a king who, it is conjectured, gave the place its appellation, but the proofs are slight indeed—quite as much so as those which would associate Prince's Road with the Black Prince, who did once live at Kennington as it is thought. More probable is it, I should say, that Prince's Road had its name from Frederick, Prince of Wales, of the Georgian era, a well-known frequenter of Vauxhall in its palmy days. Kennington, then, the "town" or "place" of the king, formerly had a palace, at which some of our earlier monarchs resided, until the reign of Queen Elizabeth; however, we have nothing definite about it. Then we find it in the possession of Sir Noel Caron, ambassador from the Netherlands, who, having a grant of the manor, built himself a mansion called Caron, or Caroon House, dying in 1624. And there is a curious account of this estate drawn out by the Commissioners who surveyed the manor by the order of the Commonwealth, which proves Sir Noel had had a fancy for fruit cultivation. The chronicle mentions "sundry small gardens, also one great garden adjoining to the south and west sides of the said mansion, planted with trees and gardeners' fruit, with one other garden on the north side of the mansion planted also with young trees, and wherein stands one pump." This north garden, I presume, extended towards the river as far as the present Wandsworth Road, perhaps across it, and I regard a little grassy enclosure with interest on which grow some good old trees, and which overlooks Kennington Oval, for I believe it to be a relic of the garden of Sir Noel Caron. Subsequently we read of a transfer of the manor by Chancellor Clarendon to Sir J. Whicheott, when gardens and orchards are again mentioned. There was in addition an extensive deer park, which comprehended Kennington Oval and Common, stretching west towards Claylands, where it was bounded by a stream called the Effra. It might be supposed, from the fact that many coins were dug up in the nursery grounds of Messrs. Chandler & Buckingham in the Wandsworth Road not far from Vauxhall Bridge, that this land belonged to the Caron estate.

Few horticulturists know anything of this Mr. Chandler, though he deserves some little repute as the illustrator of a work on the Camellia, published in 1831. The air of Vauxhall has not, I fear, improved during these recent years, but at the time Mr. Chandler was devoting his attention to Camellia culture the plants would thrive in the open air; he enumerates eight sorts that flowered freely against a north-west wall. This nurseryman produced many varieties from seed. One of these, Chandleri (also versicolor in the "Botanical Register"), being reputed of great excellence. This was originated in 1819 by Mr. C. from the seeds of *C. anemoniflora* or "Waratah," crossed with other varieties; and in the same year he produced from the seeds *C. Althea-flora* and *C. concinna*; and Loudon notes as a curious circumstance that about 1822 Mr. Chandler raised *C. Aitoni* and four more varieties from the seed in one capsule of *C. pomponia*.

Very near this nursery garden was the orchard belonging to a Mr. Phillips, who for his success in fruit culture received two gold medals from the Society of Arts. And, indeed, in the early part of this century fruit trees were numerous all along the road to Wandsworth; the yield in ordinary seasons was quite up to the average or above it, though the gardeners, professional or amateur, did not pursue quite the same methods that were common in the Middlesex orchards, where the practice of manuring was carried almost to excess. One of the "oldest inhabitants" of Kennington, and quite a local celebrity, was a nurseryman of the name of Michelson.

He had antiquarian tastes, too, so that visitors to the place could obtain much information from him about its history, especially as he reached the age of one hundred, or very nearly, though our anti-centenarian philosophers would doubt this, as they have other instances where the venerable age rested chiefly on the testimony of the individual himself. Mr. Michelson does not figure in our annals of gardening as a cultivator of rarities or a producer of varieties, though he plodded on for a good many years at his pursuit, and modern Kennington knows him not or his nursery ground as such, for o'er its surface flies the ball of the cricketer, and the air off resounds with the shout of applause at the skill displayed by bowler or batsman. In point of fact, when Kennington Oval was first reclaimed from its wilderness condition (for it was once much in the same state as the common adjacent, which once served south Londoners as an assembling ground) in the reign of George III. it was formed into a nursery garden, which an historian of the past declares was "peculiarly delightful." There were then but few houses in the vicinity, and Harleyford Road leading to the Oval was quite rural in aspect. On the decease of Mr. Michelson, or soon after, somewhere about 1830, the Oval was cleared of its plants and turfed, to be henceforth devoted to very different uses, and one by one the nurseries of that neighbourhood have disappeared to meet the increasing demand for building ground.

It may be recollected by the reader that I have made slight allusion to the history of Vauxhall Gardens. Recent investigations lead me to think that the garden mentioned by some authors as the Old Spring Garden at Vauxhall, or Fox or Fankes Hall, was distinct from the gardens we read of in the time of Queen Anne and the Georges. If we take the earliest account we have of the Old Spring Garden it gives us quite a different idea of the place from that we obtain in the "Spectator," where Addison descants upon groves, shady walks, carolling birds, and the like, evidently painting Vauxhall from the life, though he gives us ideal personages. Mingis, describing the Spring Gardens he saw in the reign of Charles II., states that it had grass and sand walks which divided squares of 20 yards each, which were enclosed with hedges of Gooseberries, and within were grown Roses, Beans, Asparagus, &c. This was manifestly a nursery garden on a moderate scale, with, we will suppose, seats here and there for visitors, while the more modern Vauxhall was chiefly shrubberies. This nursery garden then of 1663, which, if we were to guess at its position, was somewhere near the Thames—(it may be, as one author says, just opposite the New Spring Gardens)—had some singularities. It had walks laid down with grass as well as "sand," the latter we will hope was what modern folks call "gravel;" and the mode of growing flowers, fruits, and vegetables all in the same bed was original, if not according to the plans of the present race of gardeners. Long before the New Spring Garden the Vauxhall which was extant when Victoria came to the throne had yielded to the force of time. The Old Spring Garden had been seized by the builders, and now we cannot discover its locality, though it is thought that it faced the gardens which made Vauxhall still more famous. "Spring Garden," as it would appear, was a phrase formerly applied in a loose manner to a number of suburban resorts where persons went out for recreation or to obtain fruit. Was it because in many of these gardens they had springs or fountains to impart a sensation of coolness agreeable to the visitors and also to afford a ready means of watering the plants and shrubs? or was it because the proprietors of these gardens, by the introduction of a variety of plants and flowers, endeavoured to present to the eye a spring aspect all through the summer season?

Not far from Kennington is a place which has passed through odd vicissitudes, and to which a passing comment must be given. The Surrey Zoological Gardens, Walworth, originally covering about 15 acres, were taken by some gentlemen more hopeful than practical, in the hope that by their means they might be able to develop a liking for botanical pursuits in the minds of holiday-making Londoners. It was in the early part of the reign of William IV. that the establishment was opened as a "botanical garden." It was stored with a variety of exotics, and arrangements were also made for the delivery of lectures, *al fresco* I suppose. But the scheme did not answer, and so Mr. Cross removed his menagerie to Surrey from Exeter Mews and other animals were added until a very fair zoological collection was brought together, though it could not rival the display in Regent's Park. At the time the Horticultural Society was passing through an unpleasant crisis, and Fellows



came forward with various propositions for making South Kensington more attractive, it is a wonder that no one proposed the introduction of a collection of animals "all alive, oh!" I have no doubt some leopards, bears, camels, and monkeys would have caused a rush to the gardens, for one hears frequent complaints about the distance of the Regent's Park from west-end resorts. Surrey Gardens, however, despite its animals and its monster panoramas of Hecla and Vesuvius, had to succumb to the changes time brings about. It was closed, the contents sold, and after an interval we find it the temporary abiding place of St. Thomas's Hospital. Then again it became a place of popular resort, with modifications to suit the latest tastes of the age.—C.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**MONOPHYLLA RACEMOSA.** *Nat. ord., Gesneraceae. Linn., Tetrandra Monogynia.*—Native of New Grenada. A stout plant with a raceme of white flowers.—(*Bot. Mag., t. 6233.*)

**DRACENA SAPOSCHNIKOWI.** *Nat. ord., Liliaceae. Linn., Hexandria Monogynia.*—"This is a species of tall, tree-like habit, of which the native country is unknown. It has been long in the Kew collection, but did not flower till the spring of 1875. The plant was described and named by Dr. Regel in 1871 from specimens which flowered in the garden of the Russian gentleman after whom it is named, who procured it from Herr Wagner of Riga. It has close allies both in Tropical Asia and Tropical Africa. It is remarkable for its very dense rosettes of rigid, sword-shaped leaves, and for its very small flowers, which, although the panicle is ample and diffuse, are less than those of any other known species."—(*Ibid., t. 6234.*)

**COTYLEDON TERETIFOLIA.** *Nat. ord., Cruciferae. Linn., Decandria Pentagynia.*—Flowers yellow. "In South Africa this genus is chiefly confined to the south-western corner of the continent, most of the species occurring in the Cape Town district. To this *C. teretifolia* is rather an exception, it being found as far to the east as the province of Graaf Reinet and Somerset, where it forms an undershrub on the hills. Living specimens have been received at Kew from Mr. Wilson Saunders in 1873, and from the late Mr. D. Hanbury, which flower in the month of July."—(*Ibid., t. 6235.*)

**MILLA LEICHTLINII.** *Nat. ord., Liliaceae. Linn., Hexandria Monogynia.*—Flowers white. "It is a native of the Chilean Andes, and was imported to Europe by our indefatigable correspondent Max Leichtlin, Esq., who presented a living plant and seeds to the Kew collection, where it flowered at the latter end of January, 1874. It is quite hardy, and the flowers are slightly fragrant."—(*Ibid., t. 6236.*)

**ODONTOGLOSSUM HALLII.** *Nat. ord., Orchidaceae. Linn., Gynandria Monandria.*—Flowers yellow banded with brown. "It is a native of the Temperate Cordilleras of Peru and New Grenada, where it attains an elevation of 8000 feet. It was flowered by Messrs. Backhouse of York in March, 1866."—(*Ibid., t. 6237.*)

**HEPTAPLEURUM POLYBOTRYUM.** *Nat. ord., Araliaceae. Linn., Pentandria Monogynia.*—Flowers green. "A native of the mountain forests of Java, where it attains the elevation of 4300 feet, and whence specimens from various collectors are preserved in the Kew herbarium. It has been long in cultivation at Kew, having been received in 1860 from the late Dr. Miquel, at that time Professor of Botany, and in charge of the Botanic Gardens of Utrecht. It flowers in the winter months, and is probably common in continental gardens, as it appears in Linden's catalogue under the name of *Paratropia Teymaniana*, the provisional name under which it was received at Kew from Dr. Miquel."—(*Ibid., t. 6238.*)

**PEACHES.**—"Hale's Early is undoubtedly the best early Peach in cultivation, ripening on the open wall some days before the Early York or Acton Scot. The fruit is also of larger size and finer in quality than any other early Peach. It may be described as of medium size, roundish, with a deep suture on the side. The skin is of a dark crimson colour on the exposed side, with a thick coating of down, shading off to a greenish yellow streaked with red; when grown under glass the colours are much brighter and clearer. The flesh is of a dull greenish yellow, very tender, melting, juicy, and richly flavoured, and parts freely from the stone. The flowers are large, and the leaves have round glands. This fine Peach comes to us from America. It has been now for several years in cultivation in this country, so that its high merits are becoming pretty well known. It is especially recommended by Mr. Pearson and others. In constitution it is as free and

vigorous as the Bellegarde, and, like that variety, a certain cropper. *Early Victoria* is another fine early Peach, a day or so earlier than the Early York. It is exceedingly well adapted for cultivation under glass. For wall culture it is somewhat tender. The fruit is rather below medium size, roundish; skin very thin, bright red on the exposed side, pale greenish white with small red streaks in the shade. The flesh is yellowish white, very juicy, tender, and melting, with a rich flavour. The flowers are large; leaves without glands. This fine Peach was one of the first of the seedlings raised by Mr. Rivers from the Early York, and was named in honour of Her Majesty Queen Victoria."—(*Flor. and Pom., 3 s. ix., 157.*)

## THE GALLOWAY ROSE SHOW.

NEWTON STEWART, N.B.

It was certainly a somewhat startling request when I received an invitation to come down to Wigtownshire to judge at a Rose Show, and it was odd to find myself after the lapse of nearly half a century once more in this part of Scotland; for as a very small boy I had been sent for some months to a school at Stranraer, and a most Dotheboys Hall sort of place it was. Happily I forget the name of my Squeers, and so cannot visit him with my denunciations; but bad food, uncleanness, and plenty of caning were, I well remember, the principal features of the "Academy," and when these were represented my stay was not prolonged. And now to find myself once more near the place! Indeed when I went to Castle Kennedy, within two or three miles of it, was a strange thing. When I told some friend that I was going to judge at a Rose Show at Newton Stewart, I was met with the exclamation, "What! In that out-of-the-way place!" Yes, truly; and let me say that this apparently Quixotic enterprise has been originated, planned, and carried out by the indefatigable exertions of the Rev. W. G. Mackenzie, the clergyman of All Saints, and in a manner which reflects the utmost credit on his energy and pluck.

The Exhibition was held in a large and convenient public room in Newton Stewart, and was remarkable for one characteristic—it is the only one as far as I know, and certainly the only one at which I have been present, where exhibitors from the three kingdoms have met together in the fray. Mr. Cant came from Colchester, Mr. Dixon from Newtonards in Ireland, and Messrs. Robertson & Galloway from Helensburgh, besides, of course, several local nurserymen. Mr. Cant swept the board, sending some of his grand Roses, which acted rather as what the Yankees call "eye-openers" to some of the local gardeners, who, after scanning his boxes for some time, at last came to the wise conclusion that "they Roses must have all been grown under glass." But certainly they had never seen a southern Rose show, and so could not account for the size and beauty of his productions. I can imagine how some of them would stare to be landed at the Crystal Palace or the Alexandra and see the rows of boxes filled with the productions of our southern Rose-growers. And let me say that very excellent blooms were sent by both Mr. Dixon and Messrs. Robertson and Galloway, while some of those from the gardens in the neighbourhood were fresh and beautiful. The terribly cold and severe season had told against them; and Mr. Mackenzie, who lives in a place where all the winds of heaven have free play and Eolus holds his court, was not able to send a bloom. The enthusiasm which an exhibition stirs up was well seen here. It will hardly be believed, but it is none the less true, that as much money was taken at the doors with this small town of two thousand people as at Maidstone with its eighteen or twenty thousand, and this without any adjunct of band, fireworks, cats or dogs, cocks and hens, &c., which in so many places seem to be required to make a Rose show pay. Nor was this enthusiasm the less seen in a visit I paid to the garden of an excellent draper in the town, where all sorts of contrivances for forwarding or retarding the blooms were adopted; an enthusiasm which I am glad to say met its reward in enabling Mr. M'Morran to carry off the first prize in his class.

I subjoin a prize list, which will be of interest to some even in the south, as showing of what stuff our northern friends are made. I have again to speak of the utmost kindness and courtesy with which I have been received; and it will be to me ever a pleasure that my trip here has enabled me to make the acquaintance of the indefatigable pastor of All Saints; and the hospitality and kindness with which I have been received will go far to obliterate the unpleasant taste in my mouth which the recollections of my boyish days at Stranraer have left behind.—D., Deal.

Class 1 (nurserymen).—Forty-eight H.P. Roses. 1, B.R. Cant, Colchester. 2, J. Service, Maxwelltown. Class 2 (nurserymen).—Eighteen Tea-scented and Noisette Roses, distinct varieties. 1, Robertson & Galloway, Glasgow. Class 3 (open).—For best six varieties in pots. 1, J. Hannah, gardener, Monreith. 2, J. Fairgrieve, gardener, Castlewigg. 3, J. Tweedie, gardener.

Greenlaw, Castle Douglas. Class 4 (open).—Thirty-six Roses, including six Teas and Noisettes. 1, B. R. Cant, Colchester. 2, A. Dickson & Sons, Newtonards. 3, T. Smith, Stranraer. Class 5 (open).—For the best stand of the following twelve fragrant Roses:—*La France*, *Devoienensis*, *Maréchal Niel*, *Charles Lefebvre*, *Louis Van Houtte*, *Gloire de Dijon*, *Alfred Colomb*, *Marie Baumann*, *Bessie Johnson*, *Abel Grand*, *Senateur Vaisse*, *Camille Bernardin*. 1, B. R. Cant. 2, Dickson & Sons. Class 6 (open).—Twelve best Roses of 1873, 1874, 1875. 1, B. R. Cant. 2, Dickson & Sons.

Class 8 (open to gentlemen's gardeners in Galloway only).—Twenty-four H.P. Roses. 1, A. Kirk, Ernespie. 2, J. Fairgrieve, Castlewigg. 3, J. Norval, Galloway House, Garliestown. Twelve Hybrid Perpetuals. 1, A. Kirk, Ernespie. 2, G. M'Meeking, Logan, Stranraer. 3, T. Duff, Kenmore Castle. For twelve Tea-scented and Noisette Roses. 1, G. M'Meeking. 2, J. Fairgrieve. 3, W. Muir, Corbie, and A. M'Morran, Glasserton, equal. Class 9 (open to Galloway amateurs only).—For twelve best Roses of any description. 1, D. Thomson, Castle Douglas. 2, T. M'Morran, Newton Stewart. 3, H. E. Maxwell, The Airlour, Portwilliam. (Open to Wigtownshire, Minnigaff, and Kirkcubrecht amateurs only).—Twelve H.P. 1, T. M'Morran. 2, Mrs. Colvin Stewart, Newton Stewart.

Class 11.—Centre piece, decorated for a dinner-table with Roses, Ferns, and ornamental Grasses. Section A. For ladies. 1, Mrs. G. Vans Agnew, Newton Stewart. 2, Miss A. M'Morran, Newton Stewart. 3, Mrs. Kennedy, Greenlaw, Castle Douglas. Section B.—For gardeners. 1, T. Duff. 2, J. Bryden, Dunragit.

### NOTTINGHAM HORTICULTURAL SHOW.

THIS Exhibition opened on the 6th and closed on the 10th inst., and has proved in every respect a great success. Much has been said lately in these pages about having more than one or two-day shows. At Nottingham ample provision was made to have the last day as interesting as the first. The cut Roses which were staged on Thursday morning were mostly decayed by Friday night, and the large tent in which they were shown was completely filled with fresh exhibits on Saturday morning. Fruit—especially Figs, Strawberries and Peaches—were somewhat decayed on Monday, but Grapes, Pines, and such like were as fresh as on the first day. As to plants, with the exception of a few *Todeas* and tender Ferns, not one of them appeared to have suffered the least injury.

Locally the Exhibition is spoken of as "The Rose Show," but it was an excellent display of all kinds of horticultural productions. There has been nothing like it in the neighbourhood since the Royal Horticultural Society's Exhibition in 1871. The exhibits filled seven spacious tents, and everything was arranged and carried out in first-class order under the care of Mr. Kirk, the able and courteous Secretary.

**ROSES.**—The display was an excellent one, every class being keenly contested. For seventy-two distinct blooms Mr. Cant of Colchester was first with splendid blooms, among which *Alfred Colomb*, *Baroness de Rothschild*, *Duke of Edinburgh*, *Horace Vernet*, *Louis Van Houtte*, *Victor Verdier*, *Prince Arthur*, and *Felix Genere* were very conspicuous. Messrs. Cranston and Mayos, Hereford, were second with a fine group, including some extra fine blooms of *Reynolds Hole*, *Madame Furtado*, *Fisher Holmes*, and *Monsieur Noman*. Messrs. Davidson & Co., Hereford, were third; and Mr. Henry Frettingham, Beeston, fourth. Messrs. Davidson & Co. were first for forty-eight sorts; and Mr. House, Peterborough, secured the same position for thirty-six, with Mr. Merryweather, Southwell, second. The two latter gentlemen held the same position for twenty-four blooms. In the amateurs' class for forty-eight blooms the Rev. Canon Hole, Cauntun Manor, was very far in advance of all others. His stands were prominent throughout the tent for the large size and great substance of the blooms. As we heard a famous Rose-growing nurseryman say, they bore the real Cauntun stamp. The Rev. E. N. Pochin was second; and in the class for twenty-four this arrangement was revised. For eighteen Roses the Rev. Canon Hole was again first with magnificent blooms, amongst which we noted *Madame Lacharme*, *Baroness Rothschild*, *Marie Baumann*, *Capt. Christy*, *Maréchal Vaillant*, *Etienne Levet*, and *Reynolds Hole*. The latter Rose was shown in the finest possible condition by many competitors. Mr. William Harrison, Nottingham, had the best bloom amongst amateurs with *Dr. André*.

For the best twelve Roses of any variety Mr. Merryweather was first with splendid flowers of *Etienne Levet*; Mr. Curtis, Chatteris, being second with *Baroness de Rothschild*. For Tea or Noisette Roses the Rev. Canon Hole was first with some fine *Maréchal Niels*, *Madame Berard*, *Céline Forestier* and *Devoienensis*. Mr. Laxton, Stamford, exhibited the new English-raised seedling Rose *Dr. Hogg*, a splendid crimson variety of great promise. As usual, local exhibitors appeared in great force, and a highly creditable display they made.

Plants occupied a number of large tents. Many splendid specimens were shown. For ten flowering and ten foliage

plants in the open class Messrs. Lucombe, Pince, & Co., Exeter, were first, and finer plants were never seen about Nottingham. Mr. Cypher, Cheltenham, was second with excellent plants; and Mr. Dixon, Beverley, was third with a group in which there were many specimens of great merit.

In the class for sixteen foliage and flowering plants Mr. Pilgrim of Cheltenham was first; Mr. Tudgey, Henwick Grange, Worcester, second; and Mr. Meadows, gardener to C. J. Cox, Esq., Basford, Notts, third. In each of these groups some capital specimens were shown.

For a collection of new and rare plants Mr. B. S. Williams secured the first place, Mr. Dixon second, and Mr. Cypher third. Many very choice plants were shown in each collection, Mr. Williams especially having such rare and beautiful subjects as *Bertolonia Van Houttei*, *Croton majesticum*, *Sarracenia Williamsii*, &c.

In the collection of plants grouped for effect Mr. B. S. Williams was again first with a splendid group, Mr. Cypher being second, and Messrs. Lucombe, Pince, & Co. third. Several local exhibitors staged highly creditable collections; notably Mr. Thacker, Notts, whose group, although small, was arranged in splendid style.

Orchids were well shown by Mr. B. S. Williams in the nurserymen's class; and Mr. Mitchell, gardener to Dr. Ainsworth, Manchester, had some admirable specimens in the amateurs' class.

For dinner-table decoration plants Mr. Kerr, gardener to G. C. Hill, Esq., was first with well-grown plants. *Fuchsias*, *Caladiums*, *Achimenes*, and many single stove and greenhouse plants were shown in fine condition. The Ferns from E. J. Lowe, Esq., Highfield House, Notts, would have furnished an ordinary show in themselves. Many new and rare, as well as splendid, specimens of old varieties came from this gentleman.

Dinner tables were very attractively arranged, Mrs. Cypher being first, Miss Bridget second, and Mrs. James Cypher third. The latter was quite equal to the first, and much more elegant and superior to the second.

The Fruit prizes were rather weak; Mr. Gilbert, Burghley, was first for a collection of eight sorts with some fine Muscat of Alexandria and Black Hamburg Grapes, splendid Pines, Melons, Figs, Peaches, Strawberries, and Cherries; Mr. Bannerman was second. For two Pine Apples Mr. Tudgey was first, Mr. Miles second, and Mr. Gilbert third. None of these fruits were very superior. In single Pines Mr. Gilbert put in a better appearance.

Mr. Bannerman was first for three bunches of Grapes with Black Hamburg, Madresfield Court, and Muscat of Alexandria. Mr. Edmonds, gardener to his Grace the Duke of St. Alban's, Bestwood Park, Notts, was second with well-finished bunches of Black Hamburg, Muscat of Alexandria, and Canon Hall Muscat. For two bunches of Grapes Mr. Bannerman was again first with Foster's Seedling; Mr. Booth, Osmaston Manor, being second with very good Muscat of Alexandria. Mr. Gilbert was both first and second for Melons with *Hero of Bath* and *Victory of Bath*, both first-rate green-fleshed varieties. In the scarlet-fleshed section Mr. Bannerman was first with *Read's Hybrid*, Mr. Gilbert being second with *Prince's Favourite*, and Mr. Swanwick third with *Monro's Little Heath*. Peaches, Strawberries, and other small fruits were shown in large quantities and first-rate order.

Vegetables were rather scarce, but excellent in quality. Mr. Miles, Wycombe Abbey, Bucks, was first for the collection, Mr. Arkell was second, and Mr. Smith, Cheltenham, third. Potatoes, Cucumbers, Tomatoes, and other vegetables were all well shown; and there was a very attractive display of Mr. Laxton's new Peas. For these Mr. Miles was first with *William I*, *Dr. Hogg*, *Fillbasket*, *Supplanter*, and *The Shah*.

### THE ROSE ELECTION.

THE time has arrived for testing again the merits of the different varieties of our national flower, and with the consent of our Editors I propose to hold the annual poll, and to call in the voting papers about the end of August. This year is the general election.

The first question is, Name the fifty best Roses of any variety, and underline or mark the best twenty of these. The other question that I propose to ask is, Name what you consider the best stock for Roses. Replies to one or both of these questions are requested by any interested in the subject.—JOSEPH HINTON, *Warminster*.

### NOTES AND GLEANINGS.

THE forthcoming SHOW OF THE ROYAL HORTICULTURAL SOCIETY on the 19th and 20th inst. at South Kensington, and which is also the last horticultural show of the London season, promises to be one of more than usual interest to horticulturists. In addition to the prizes offered by the Society for Roses,

plants, &c., many of the leading nurserymen are going to exhibit large groups of miscellaneous plants for the decoration of the tents; and great interest is attached to the annual show of Pelargoniums by the Pelargonium Society, which is to be held in conjunction. Fruit—in competition for the liberal prizes offered by Messrs. Veitch & Sons—will as usual make an excellent display; and the show of vegetables—in competition for Messrs. Carter & Co.'s, Sutton & Sons', Hurst & Sons', and W. Munro's prizes—promises to be of unusual magnitude. The Council has wisely, as we think, reduced the price of admission from 7s. 6d. to half-a-crown, and 1s. on the second day.

—THE LINDLEY LIBRARY does not belong to the Royal Horticultural Society. It was purchased with part of the surplus of the proceeds of the International Horticultural Exhibition and Botanical Congress held in London in 1866, and is vested in the hands of trustees, who will be grateful for any donation. By permission of the Royal Horticultural Society the library is deposited in its rooms.

—THE PELARGONIUM SOCIETY'S SHOW will be held on the 19th and 20th inst. at South Kensington in conjunction with that of the Royal Horticultural Society. The collection of zonal Pelargoniums grown at the Chiswick Gardens on behalf of this Society includes many new varieties contributed by the leading continental raisers; and being well worthy of inspection it is proposed to hold a meeting for that purpose at Chiswick, on a day to be fixed at the annual meeting.

—A FLOWER SHOW among the children of the schools of St. George's, Hanover Square, Grosvenor Schools, and St. Mark's and Hanover Schools, was held on the 10th inst., by permission of the Duke of Westminster, in the gardens of Grosvenor House. The flowers were such as are ordinarily chosen for window culture, and the display, though rather small, was very good. The prizes, consisting of gifts of money, were distributed by the Duchess of Westminster in presence of a large gathering of ladies and gentlemen, among whom were Lady Beatrice Grosvenor, the Earl of Shaftesbury, Mr. Gladstone, Sir Henry and Lady Rawlinson, the Earl of Powis, Lady Somerset, &c. At the close of the distribution the Earl of Shaftesbury expressed his strong sense of the good, both physical and moral, which arose from a true taste for flowers and their cultivation, as being calculated to foster mental refinement and habits of gentle care and attention, and could scarcely fail to inspire a truer and more reverential awe of and gratitude to the Great Unseen Power that watched over all. Mr. Gladstone remarked that the excellent taste which they were now being called upon to foster was a pre-eminently English taste; and he thought he might safely say that as regarded the art and science of gardening, the English nation could well take the prize from the rest of the world; that wherever a garden was laid out—not in accordance with artificial rules and mechanical symmetry—but in such a manner as to please the eye and the sense of the picturesque, such a garden was invariably termed "an English garden;" and concluded by urging on architects and builders of cottages and other dwellings for the industrial poor, never to keep out of sight the importance of the provision of facilities for floriculture.

—SOME POTS OF RHODANTHE MANGLESII are extremely pretty in the conservatory at Kew. Some other annuals are also used with good effect, and among the best are *Schizanthus retusus* and *S. pinnatus*. Some Fuchsias trained to the rafters show to great advantage. It has been remarked that Fuchsias should be seen from underneath, and from that point of view they are certainly very effective. One of the best climbers in this house is *Lonicera sempervirens*, of which the flowers surpass any other Honeysuckle we remember, and quite equal *Gesneras* in brilliancy.

—THE ANNUAL SHOW OF THE ULSTER HORTICULTURAL SOCIETY was held on the 6th inst. in Belmont Demesne, the use of which was granted by Sir Thomas McClure, Bart. The day was extremely fine, and in every sense suited for the holding of a flower show. The exhibits were arranged on stands in three spacious canvas tents. We are informed that never were there heard at any previous show so many expressions of admiration on the part of visitors, nor, in the opinion of the Judges, did they recollect any previous display so excellent in every respect.

—THIS HAS BEEN TRULY "THE YEAR OF ROSES." Their culture seems to extend more and more over all classes and

places. The Duchess of Westminster, Viscountess Holmesdale, Lady Londesborough, Lady Sutton, and Mrs. E. H. Scott were among the Judges who awarded the prizes at the Royal Westminster Aquarium; and a Rose show was held at the Corn Exchange in Mark Lane on the 5th, the proceeds being appropriated to the benefit of the Corn Exchange Benevolent Society. The Show was well patronised and very successful, as many of the Roses exhibited might bear comparison with prizetakers in first-class shows held in other parts of the metropolis.

—THE FLOWER SHOW at the Winter Gardens, Southport, was very successful, and great praise is due to Mr. Campbell, their Curator, to whom the arrangement of the whole was wisely entrusted by the Directors, and who has proved himself well worthy of their confidence. People little imagine that it is the result of many months of labour, patience, care, and perseverance. That Mr. Campbell has shown himself equal to the occasion, working all the while single-handed, is well declared.

—THE COUNCIL OF THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY having resolved to award the NEILL PRIZE every second year in place of every third year as formerly, they have awarded the same for the period from 15th of May, 1874, to 15th of May, 1876, to Isaac Anderson-Henry, Esq., of Woodend, for eminence in botany and horticulture.

—OUR report of the magnificent display of *LILIUM AURATUM* in the garden of J. MCINTOSH, Esq., at DUNEVEAN last year will be remembered. This year the display, we are glad to learn, is likely to be equally fine. Many of the plants are growing exuberantly, the stem of one being already 10 feet in height and not yet showing flower buds. A very few of the Lilies were disfigured by the cutting winds of spring, but the majority of them escaped injury. These Liliacs are planted in the borders and are not protected, and their vigour and beauty it is almost impossible to describe.

#### POTATO-GROWING EXPERIMENTS.

A GENTLEMAN in the neighbourhood of Arbroath, who has been for some years experimenting with seedling Potatoes, gives the result as follows:—

"My first seeds from the plum were sown in a cosy corner of the garden. They braired in the first week in May, were thinned out and transplanted early in June, and were taken up early in August; those which did not possess merit being destroyed, and those which gave good promise being preserved. In this first year I was comparatively successful, some of the tubers being 4 ozs. in weight, though were only of the size of Filberts—some early, some late; some red, some white, some streaked; some round, some oval, some like kidneys, &c. Not one speck of disease was seen either on the haulm or on the young Potatoes, and the only misfortune they met with was that a perambulating peacock took a fancy to parade in that particular corner, imagining that the proper display of his feathers was of more consequence than the raising of Potatoes for the million.

"In the following season I chose a plot of ground that was not likely to be suitable for the peacock, but the high winds broke the stems, and I had no tubers. The third season I transplanted my seedlings to an inside border, but they were destroyed in a similar manner. This season I have a few excellent plants. My present stock of seedlings are all from the produce of the plums sowed four years ago. My experience is that the ground should be in a sheltered situation, of a free nature, manured in the autumn, forked over in the spring, the seed sown in April in rows 18 inches apart, the weakest plants thrown away, and the others thinned out to 9 inches apart, while spare plants may be transplanted without loss during suitable weather. Guard against crows, cats, trespassers, and high winds. I have now one more acre planted with the produce of my first sowing, and up this date I have given all the varieties an equal chance.

"I have found those which were most promising to be least profitable. One very beautiful variety has entirely failed; another was decimated by the disease, but with that single exception the whole have been disease-proof. One variety is very similar to the Champion, one to the Fluke, one to the Victoria, one to the Regent, one to the American, one to the Ashleaf. A variety of Kidney is uncommonly prolific. The habits of growth vary exceedingly, some being a speedy growth, low stature, and early maturity; others start slowly, grow

strongly, and take a much longer time to mature. On the whole, there are several superior varieties for garden and field."—(*Montrose Review*.)

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

APPLE, Pear, Plum, and other trees as standards, pyramids, and bushes, require to be looked over at this time to shorten or remove any superfluous young wood. We have frequently advocated the early removal of any wood that is not required. Even trees that are under the care of good cultivators very often become too much crowded with wood from frequent pinchings. A free use of the pruning-knife is requisite to thin-out both old and young growths, as the fruit cannot be of good quality where it is shaded from the sun. In training young fruit trees the habit of each kind must be taken into account. Some varieties of Apples, Pears, and Plums will make three times as much wood as others, and when there is a large quantity of young growths they ought not to be shortened so close back as on trees where the quantity is not so large. The object of pinching a young shoot in June and July is to cause it to throw-out two or three more growths, so that the tree may be well furnished throughout.

If water is laid on in the garden and it can be applied through a hose and spreader to the trees at this season, they will be greatly benefited by it. In villa gardens near dusty roads the leaves of the trees become choked with dust, and a daily washing overhead during a thirsty period will keep the trees in excellent health. If the trees have a thorough washing, and the ground underneath is mulched with manure, enough water will run on to the ground to keep the roots sufficiently moist. Attention must be given to all wall trees, as they are now making rapid growths. All shoots intended to be saved should be nailed into the wall at once. If Pear trees trained on the horizontal system have not yet filled the wall space allotted to them, the leading growths should be stopped so that a second pair of lateral growths may be formed. Sometimes three pairs may be obtained, but it is not desirable to stop the leader twice in a season.

We are busy amongst the Strawberries, gathering the fruit and layering all the runners that may be required. Black Prince and Keens' Seedling are already rooted and will presently be severed from the parent plants; but even for late crops it is best to layer the runners early in the season. The best crops of fruit are obtained when the roots are matted so firmly round the sides of the fruiting-pot by the end of autumn that the plant may be turned out of the pot and be tossed about like a cricket-ball without breaking.

We have been looking over the Apple trees and find a few fruits eaten by the Apple-boring maggot; it is best to gather all such at once and have them destroyed. Earwigs are also troublesome at this season; they will eat ripe fruits on the walls, and it is best to trap them by placing bean stalks against the walls, into which they crawl at night and may be blown-out in the morning.

### VINERIES.

The early houses from which the fruit has been cut require but little attention at this time. The Vines have been thoroughly syringed to rid the foliage of red spider, applying the water with some force to the wood and glasswork to cleanse it from dirt and to dislodge spiders and other insects. The ventilators are left open night and day.

Late vineries still demand a little attention in stopping the growing shoots and tying the lateral growths into their places. If the laterals are neglected and allowed to ramble about, the Vines look untidy and the permanent growths are injured through becoming too crowded with leaves. As the weather is very warm and the nights are also warm it is well to admit a little air at nights: even if the temperature should fall for a few hours below the usual minimum it will do no harm. As there is no heat in the hot-water pipes atmospheric moisture is supplied by evaporation from the paths, borders, and walls of the house.

Vines in pots intended to fruit next year should now be ripening their growths. If the Vines have not yet been repotted into their fruiting pots, no time should be lost in potting them. We never plunge the Vines in bottom heat at this season. It is not necessary to do so, as some suppose, as growths and roots formed under such circumstances are not so good as those formed when the pot has been placed on an open stage over hot-water pipes. The best potting material is good turfy yellow loam not too heavy; but we prefer it more of a clayey than of a sandy nature. Three inches of the top spit only should be used, and the turf be torn to pieces by the hands. Crushed bones in the proportion of a 9-inch potful to each barrowload of loam, and one part of decayed manure to six, form an excellent compost. Twelve or thirteen-inch pots are large enough for the strongest canes, and the potting material must be rammed in quite firmly. The best variety for pot culture is certainly the Black Hamburgh

or Frankenthal; and the best white Grape is Foster's White Seedling. Buckland Sweetwater when well grown is the best, but it is not so constant; the fruit, when it is not freely exposed to the sun, being rather watery, and the berries wanting in plumpness.

### CUCUMBER AND MELON FRAMES.

A couple of Cucumber lights 6 feet by 8 will produce Cucumbers enough for a large family if the plants are managed so that a few fruits are always coming on. For instance, a brace may be ready to cut, two more may be half grown, two more may be two or three days later, and a few may be in flower. One plant is sufficient for a light 6 feet by 4. The growths must be thinned-out weekly, and those that remain be stopped a joint or two beyond the fruit. Some rich dressing should be applied to the surface once in two or three weeks, and each plant will require about four gallons of tepid water sprinkled over the foliage daily when the frames are shut up at 4 p.m. A little air ought to be admitted at six in the morning, increasing the ventilation as the sun raises the temperature of the frame.

Melons require very similar treatment, but omitting the surface-dressing. Melon plants grown in frames and trained over the surface of the bed are liable to damp or rot-off at the collar of the plant, and many persons, thinking to prevent this, starve the plants for water; no greater mistake can be made, as plants insufficiently watered are more liable to decay at the collar than those that have been well supplied. When the fruit is ripening water must be withheld.

### PLANT STOVE AND ORCHID HOUSES.

Where a number of large specimen plants are grown for exhibition purposes there is now plenty of work repotting or training the growths. The exhibitors seem more inclined to grow greenhouse than stove plants now for exhibition purposes. The plants do not suffer by removal like stove plants, and as a rule they last longer; and this is a great advantage where there are a number of exhibitions in succession. Still there are few greenhouse plants, if any, that can stand against well-grown examples of *Stephanotis floribunda*, *Ixora coccinea superba*, and *Dipladenia Brearleyana* or *D. insignis*. Potting large specimen plants requires to be done with great care. A space of 1½ inch or 2 inches clear should be allowed between the ball and sides of the pot. The drainage should be placed carefully in the bottom, and the potting material must not be allowed to mix with the drainage, which it would do if it was put in without first placing some fibry peat or loam, according to the nature of the plant intended to be potted. *Ixoras* should be potted in turfy peat only, *Bougainvilleas* in turfy loam; *Clerodendrons*, *Medinillas*, *Allamandas*, &c., require turfy loam in various proportions added to the peat. All of them that require to be potted must be done at once, so that the plants may be well established before the winter. Even when repotting is done with the greatest care the plants do receive a check to their growth, and it is better to do the work in cloudy calm weather, as wind is quite as injurious to the plants as sunshine. The house where the plants are placed should be kept rather close and moist for a week or more until the plants are established. Watering must also be carefully performed; either too much or too little will be injurious, and it is of the greatest importance to have the plant quite moist at the roots before potting it. A plant may sometimes show signs of suffering for want of water after repotting, and to all appearance the mould may be wet enough; but let the plant be turned out of its pot again, and the old ball will be dusty dry while the new material is spongy wet. This is the result of potting a plant when it was too dry at the roots. If a plant flags after repotting, and when it is thought to be sufficiently moist at the roots, it may be dewed overhead with a fine syringe, and on no account should recently potted plants be exposed to draughts of air or the direct rays of the sun.

We have repotted many of the cool as well as a few Orchids in the warmer houses. Specimens that have been in the same pots for two or three years are thickly matted with roots, which cling to the sides of the pots. It is a mistake to turn such a plant out of the pot in the usual way. If when the pot is inverted and the rim tapped two or three times on the potting-bench the Orchid still clings to the pot, this is a proof that the roots are firmly attached to the pot, in which case the pot should be broken by a smart blow with a hammer; all the growing points of the roots should be carefully preserved. *Cattleyas*, *Odontoglossums*, *Masdevallias*, *Lycastes*, *Anguloas*, &c., were, potted in good fibrous peat and live sphagnum in equal proportions, the pots being from a half to three parts filled with clean potsherds.—J. DOUGLAS.

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

HIGHGATE. July 13th. Mr. W. M. Bürcck, 6, North Road, Highgate, Sec. WEST OF ENGLAND (HEREFORD). Roses. July 13th. Rev. C. H. Balmer, Credenhill, Sec. CLIFTON, BRISTOL (Roses, &c.). July 13th. Mr. J. T. Jackson, Sec.



**LEEK (Roses).** July 18th. Mr. S. Cartwright, Sheep Market, Leek, Staffordshire, Hon. Sec.

**KILMARNOCK.** Roses, July 18th and 19th. General Exhibition, September 14th. Mr. M. Smith, 11, King Street, Sec.

**TONBRIDGE.** July 19th. Mr. W. Blair, Hon. Sec.

**ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON.** July 19th and 20th (Roses, &c.). November 8th (Fruit).

**THORNTON HEATH.** July 21st and 22nd, and September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.

**TWEKESBURY.** July 25th. Mr. P. Moore and Mr. H. J. Cochrane, Hon. Secs.

**WREXHAM.** July 25th. Mr. J. B. Shirley, Hon. Sec.

**HUNTINGDON.** July 26th. Mr. J. Dille, Market Place, Sec.

**HEADINGLEY.** July 26th and 27th. Mr. T. Atkinson, Burleywood, Headingley, Leeds, Sec.

**ABERDEEN (Royal Horticultural Society).** July 26th, 27th, and 28th. Mr. Archibald J. Rennie, 123, Union Street.

**BRIGHTON.** July 29th. Messrs. C. Jessop & E. Bawnley, Hon. Secs.

**SALTBURY.** July 29th. Mr. G. A. White, Hon. Sec.

**KILBY (Flowers).** August 1st. Mr. C. E. Bracebridge, Sec.

**HEWORTH (Horticultural).** August 2nd. Mr. B. H. Felton, Hon. Sec.

**RAVENSTALL (ROSEDALE).** August 4th and 5th. Mr. M. J. Lonsdale, Sec.

**SOUTHAMPTON.** August 5th and 7th. Mr. C. S. Fridge, 39, York Street, Sec.

**FINEDON.** August 7th. Mr. G. C. Mann, Sec.

**TAUNTON DEANE.** August 10th. Mr. F. H. Woodforde, M.D., and Mr. Clement Smith, Hon. Secs.

**FILEY.** August 11th. Mr. Walter Fisher, Hon. Sec.

**OTLEY.** August 12th. Mr. Alfred Suttle, Hon. Sec.

**CLAY CROSS.** August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec.

**WESTON-SUPER-MARE.** August 15th and 16th. Mr. W. B. Frampton, Sec.

**FRESTON.** August 16th and 17th. Mr. W. Troughton, Hon. Sec.

**SHREWSBURY.** August 16th and 17th. Admitt & Naunton, Hon. Secs.

**LEDBURY.** August 17th. Mr. J. B. Masfield, Hon. Sec.

**NORTHON, NEAR STOCKTON-ON-TEES.** August 18th. Mr. C. Turner, Sec.

**MIRFIELD.** August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.

**CALNE (Wilts).** August 22nd. Mr. H. Blackford, Sec.

**NEWBURY.** August 22nd. Mr. R. Seymour, Hon. Sec.

**DORSET COUNTY.** August 23rd (at Dorchester).] Mr. A. Pope and Mr. C. Parsons, Secs.

**CHEPSTOW.** August 23rd. Mr. R. Thorn, Hon. Sec.

**CARSHALTON, WALLINGTON, AND BEDDINGTON.** August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.

**SEATON BURN.** August 26th. Mr. B. Richardson and Mr. W. Elliott, Secs.

**ISLE OF THANET (MARGATE).** August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.

**POCKLINGTON.** August 31st. Sec., Mr. J. E. Ross.

**MONTEBRO.** September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.

**DUNDEE (International).** September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.

**GLASGOW.** September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.

**ROYAL CALEDONIAN HORTICULTURAL SOCIETY.** September 18th.

**IPSWICH.** September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.

**NORTHAMPTON (Chrysanthemums).** November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

**PADLEY'S PIPPIN (T. Hall).**—It is thus described in Dr. Hogg's "Fruit Manual":—"Padley's Pippin (Padley's Royal George Pippin).—Fruit small, 2 inches wide and 1½ high; roundish-oblate. Skin pale greenish yellow, rather thickly covered with thin grey russet, and faintly tinged with orange next the sun. Eye small and closed, set in a shallow and rather angular basin. Stalk three-quarters of an inch long, slender, and inserted in a rather shallow cavity. Flesh yellow, juicy, sugary, brisk, and richly aromatic. A dessert Apple of first-rate quality; in use during December and January. The tree is of small dimensions, but healthy and a prolific bearer. It is well adapted for dwarf training when grown on the Paradise or Doucin stock. This variety was raised by Mr. Padley, gardener to His Majesty George III. at Hampton Court. According to Rogers, Mr. Padley was a native of Yorkshire, and after coming to London and filling a situation of respectability he was appointed foreman in the kitchen garden at Kew. "On the death of the celebrated 'Capability Brown,' Mr. G. Haverfield was removed from Kew to Hampton Court, and took Mr. Padley with him as foreman. On the death of Haverfield Padley's interest with his Sovereign outweighed all the interests of other candidates, though urged by the most influential persons about Court. 'No, no, no,' said His Majesty, 'it is Padley's birthright.'" We believe it can be purchased at the nursery you name.

**EARLY SECOND PEA.**—Mr. Warren, the Earl of Portsmouth's gardener, highly commends Carter's Commander-in-Chief.

**SECOND-HAND BOOKS (F. H. T. E.).**—You had better put them into a sale near you. Imperfect works are not saleable to a London bookseller.

**HOLLYHOCK LEAVES DISEASED (M. Cross).**—It is a fungus, not an insect, which is scourging the leaves. Pick the leaves off and burn them, and dust the plants with flowers of sulphur.

**EXCLUDING SNAILS.**—W. G. says a ridge of quicklime along the top of the wall will prevent the snails passing. A horsehair rope stretched along the top of the wall would be a barrier.

**SEEDLING GLOXINIAS (E. G. B.).**—They are good, especially 1 and 5. The other blooms were damaged; 4 is good if the corolla is not flimsy.

**VINES FAILING (J. L.).**—Not sufficient ventilation and want of watering are the causes. You opened the windows after the mischief had occurred.

**PEACH LEAVES BROWNED (J. McMurray).**—Deficient supply of sap is the cause, probably from the roots not being sufficiently and regularly watered.

**PLANTAINS ON LAWN (C. M.).**—There is no mode of destroying them so cheap or effectual as cutting them out with a knife. We call it "the-old-woman-and-old-knife remedy."

**CANTERBURY BELLS (P. P.).**—Plant these a foot apart in order to obtain fine spikes of bloom; the other flowers you name half that distance.

**IMPREGNATING MELONS (D. E. F.).**—This is done by rubbing the dry pollen taken from the male flower upon the stigma of the fruit or female flower, an operation that is considered necessary only for very early crops. At this season of the year under good culture and a free system of ventilation artificial impregnation is unnecessary. Due attention to providing suitable soil, thinning, stopping, watering, and ventilation usually leads to success. This formula rules our practice, and we are now cutting plenty of good fruit.

**FERN CULTURE (H. W. G.).**—You will find directions and descriptions in our "Fern Manual."

**GERARD'S CATALOGUE (J. H. R.).**—Mr. Jackson has not published it. He might lend you a copy.

**PLUM STOCKS FOR PEACH TREES (An Amateur).**—The Brompton and Muske Plum stocks are used for grafting or budding upon. Any respectable nurseryman can supply them. We have found the common Bullace, which is propagated by suckers, a good stock.

**MELON LEAF (Constant Reader).**—We fail to notice any insects or trace of them having infested the leaf enclosed. There are traces of sulphur, which is perfectly innocuous, on the dried leaf, probably due to extravasated sap, the stem being dead; or it may arise from damp at the collar of the plant.

**ANNUALS FOR SPRING BEDDING (J. A. S.).**—The best are the *Silenes pendula* and *vars. alba*, compacta, *compacta alba*, *ruberrima*; *Lasthenia californica*, and *Collinsia verna*, which should be sown about the second week in August, also at the same time *Veronica syriaca*. Others to be sown the early part of September are—*Collinsia bicolor*, *C. candidissima*, and *C. grandiflora*; *Nemophila insignis*, *N. insignis alba*, *N. atomaria*; *Limnanthes Douglasii*, *L. grandiflora*; *Saponaria calabrica*, *S. calabrica alba*; *Campanula pentagonia* and *var. alba*, *Venus's Looking-glass*, blue and white *vars.* *Candytufts* and *Clarkias* are also useful, with *Larkspurs* sown at the same time.

**OAK TREE BLEEDING (Henry Seymour).**—The bleeding will shortly cease of itself, and no untoward consequences will result beyond a scar. You may, however, fill the opening or hole with cement, and over this the bark will in time grow, the cement not coming out further than the wood, and fill-up level with the bark with the patent knotting used by painters, which will partially if not wholly check the bleeding.

**COCCUS CAMELLIE (S. C. A.).**—If it recurs repeat the application. Whether it would live on the Vine we do not know, but do not think it would, but it would on Azaleas.

**STOVE FOR CONSERVATORY (Sol).**—Select one from our advertisement columns, but have a tube flue to convey the fumes of the fuel into the outer air.

**DESTROYING FUNGI ON A LAWN (Nimrod).**—We do not know of any method of destroying fungi without doing injury to the grass. The spawn is, of course, the primary source of your annoyance, and as that spreads more freely near the surface among the roots of the grass than elsewhere during the season of growth, the only remedy is to remove the whole of the affected turf and soil, replacing it with some other that is free from the pest, or to dig up the lawn, burning every particle of soil and turf which contains the thread-like spawn, and then levelling it down again, and either sow grass seed or re turf it.

**NAMES OF PLANTS (F. W.).**—The specimens are not numbered, so cannot be referred to. (*Mac.*)—*Spiraea aristata*. (*A Reader*).—*Muscari comosum*, *var. monstrosum*. (*E. E.*)—1, *Collomia grandiflora*; 2, *Lapsana communis*. (*J. F.*)—1, *Carex paludosa*; 2, *C. distans*, *var.*; 3, *C. ovalis*; 4, *C. palescens*; 5, *C. distans*; 6, *C. pendula*. (*R. F. B.*)—*Mitrasia coccinea*. (*Mrs. H.*)—1, *Iris pumila*; 4, *Sedum album* or an ally; 5, Looks like a *Phlox*, but too withered. (*L. M.*)—6, *Asperula arvensis*; 7, *Hieracium aurantiacum*; 8, *Lotus corniculatus*. Specimens of Ferns insufficient. (*A Boyle*).—1, *A Sedum* (perhaps *S. Sieboldii*), not a Saxifrage; 2, *Astilbe barbata*, often mis-called *Spiraea japonica*. (*E. H. B.*)—A double *Larkspur*, species indeterminate.

### POULTRY, BEE, AND PIGEON CHRONICLE.

#### DISQUALIFICATIONS.

We have before us the schedule of the Warminster Cottagers' Garden Society, and we read among the rules of the poultry department—"The Judge will be instructed to disqualify any pens, &c. In this case the cause of disqualification will be posted on the pen and in the prize list." We consider this rule admirable, and would recommend its being inserted in all schedules. The word disqualification is itself so ugly, and carries with itself so much that is unpleasant, that we consider, in justice to exhibitor and judge, the cause of the disqualification should always be made known. In many cases a bird is entered in a wrong class, and the pen is consequently "disqualified;" but a bird with plucked hocks, false tail, dyed legs, or cut wings is also "disqualified" when the case is detected. Visitors at shows, however, and distant exhibitors are very often quite unable to know whether a bird they see with a disqualified ticket is so disgraced from a mistake in making the entry, or for being doctored dishonestly to secure a prize. We feel that a bird which is wrongly entered, or a young bird which is entered in an old class, or any case which shows the mistake could only have arisen from a blunder and not from desire of deception, should not be disqualified at all, but should be ticketed "entered in the wrong class," or with some such label on the pen and in the catalogue, and the word disqualified would then, if only used for cases of trimming and such like, at once imply something really wrong. It is a most difficult matter to know where trimming and doctoring legitimately begins and ends in these



days, that is if it ever ought to begin at all; but though we do not in any way want to go into what is lawful and what is not, or whether any beautifying process is legitimate, still we must say we experience difficulty to find just where the judges do draw their line. Everyone knows that no Game, Spanish, or White-crested Black Poland is put into a pen by an exhibitor of any understanding without being trimmed somewhere on the head; or again, that any of the knowing north-country Ham-burgh breeders exhibit their birds without the comb being carved and cut into order, consequently while these things are allowed by the judges we cannot imagine on what principle they regulate their ideas about when a bird is overtrimmed. As we said, we do not mean to say whether we think trimming and beautifying is advantageous or not, but we do want to know why it is worse to cut a Spanish cock's comb than it is a Ham-burgh's; why, in fact, should a Spanish cock with a cut comb be passed over, which really means disqualification, while at the same show a Ham-burgh with a manifestly home-made pike to its comb may have first prize? why, again, a Spanish cock or hen with a face which must have been touched-up should win a prize, while a chicken which also has been touched-up should be disqualified? At Abingdon last week we heard several wonder why no second prize had been awarded in the Spanish, and we were told the birds which were to have had that honour were too much trimmed, and so the pen was disqualified. We should like to know if the judge thought the first-prize pen was shown just as Nature had made them.

We often think many of the birds which deserve disqualification come off scot-free, although the adjudicators knew full well the birds deserve the ugly card, while on other occasions some birds are disqualified which do not deserve it. Everyone remembers the case of a well-known hooked Brahma hen being disqualified because the tips of her hocks had been rubbed off, and everyone who knows anything about poultry would know that a hooked hen to be trimmed would not have been dressed in that rude way, but would have had the feathers abstracted and the holes cauterised to prevent their growing again, or they would have been cut off close to the skin so as to avoid detection. The bird had evidently been running on rough ground, and the hocks had lost the tips of their feathers by the friction; and yet here was a bird disqualified and a yard disgraced because more trouble had not been taken to ascertain whether any other cause was possible beyond the fact of trimming. And then another case, when a Cochon cock, which was a notorious winner, had at the end of a long season of many triumphs broken his tail feathers from the frequent penning, was disqualified. No one could imagine why, for the bird was almost as well known as the judge himself; and even had this adjudicator thought it best to disqualify him for the broken feathers, although he knew the bird desired no doctoring at all, it would have been more satisfactory for him to have stated the reason of the bird's disgrace. We feel it is most important that the cause should always be known, and as this to a great extent lies with the judges, we hope that they will write their reasons on their slips and ask the secretary to have the same posted and recorded as much as if they had won the cup or first prize.

We feel the subject wants to be aired, for we have heard of more disqualifications in the last few weeks than ever before, we think, in as many months. Over and over again we hear of a whole class of Nuns being disqualified, but we never remember hearing before of a whole class of Spanish being ticketed with the same objectionable cards for being "overtrimmed" as we have done this week. We can only say that we really should seriously recommend Spanish exhibitors to find out from the judges what they will allow and what they will not, for the very fact of the birds being called "overtrimmed," as our correspondent who wrote to us termed it, shows that it is generally supposed that the judges will bear with a certain amount. But when the bounds are stepped over and the judge feels that he must disqualify, by all means let those at the show and those away from it know the cause of the disqualification, or else a pair of Brahmas entered by mistake among the French may to the uninitiated and the absent appear to be in the same boat with a notoriously dyed Duckwing or clipped Golden-spangled Ham-burgh.—W.

#### RIPON SHOW OF POULTRY, &c.

THE annual Show was held at Ripon on the 4th. The pens were fixed in the open field; but the day being fine and the pens being placed under some large trees all passed off well. The prize list was but small, and for the amount offered the entries were good.

Game headed the list, and these were in pairs, and a mixed class; the first Brown Reds, and second Duckwings, both very good and well placed. *Spanish* and *Brahmas* very poor; but *Dorkings* good. In *Cochins* first were Buff, the cock a grand colour but a little bad on feet; second Black. Among the *Hamburghs* were some very good birds, especially the *Gold-spangles* and *Silver-pencils*. *Bantams* poor, except the winners in each class. *Turkeys* a grand class, very even, and the

whole of them noticed. *Ducks* a failure; but *Geese* and *Guinea Fowls* really first-rate. In the former White Embden won both prizes.

In *Pigeons* an old trick was played. One large exhibitor with entries in every class never turned up, no doubt some crotchets or other having deterred him; but in this case there is little doubt but that the fine to be imposed in each case of failure to exhibit would be enforced, and thus Mr. Horner will be taught to respect the provision made for him in future. The entries were pretty good, and in some classes the birds were very good. Pouters, Almonds, and English Owls, especially the latter, being very good indeed.

*Rabbits* were badly classified, and the consequence was the stock shown was poor except the first, which was a nice *Himalayan*.

**POULTRY.—GAME.**—1, W. Bearpark. 2, W. Scott. **SPANISH**—1, Horner and Holdsworth. 2, H. A. Hawkins. **DOCKINGS**—1, T. F. Carver. **BRAMA FOOTBALL**.—*Light*.—1, H. Digby. 2, J. Smith. *Dark*.—1, G. Mangles. **HOTDANS**.—1, J. Whitton. **CREVE-OCURS**.—1, J. Robshaw. 2, B. Myers. **POLANDS**.—1 and 2, C. Walker. **COCHIN-CHINAS**.—1, F. Horsman. 2, J. Smith. **HAMBURGHS**.—*Golden-spangled*.—1, T. P. Carver. 2, W. Bearpark. *Silver-spangled*.—1, J. Robshaw. 2, W. Bearpark. *Golden-pencilled*.—1, G. Kidson. 2, T. P. Carver. *Silver-pencilled*.—1, H. Digby. 2, J. Robshaw. **BANTAMS**.—*Golden-laced*.—1, W. Richardson. 2, T. P. Carver. *Silver-laced*.—1, H. A. Hawkins. 2, T. P. Carver. *Game*.—1, Wells & Sherwin. 2, J. Whitton. *Black, White, or any other variety*.—1, H. A. Hawkins. 2, W. Bearpark. **TURKEYS**.—1, Mrs. Kirk. 2, W. H. Garforth. **GESE**.—1, I. Moorey. 2, W. H. Garforth. **DUCKS**.—*Aylesbury*.—1, H. Digby. 2, J. Bowman. *Rouen*.—1, W. H. Garforth. 2, G. Mangles. *Any breed or cross*.—1, G. Sadler. **GUINEA FOWLS**.—1, C. Nicholson. 2, J. T. Reaton. **SELLING CLASS**.—1, H. Digby. 2, J. Robshaw. **EXTRA STOCK**.—2, A. Wood (Light Brahmas).

**FICKENS.—CARRIERS**.—1 and 2, J. E. Crofts. **TOMBLERS**.—*Almond*.—1, T. Horsman, jun. 2, T. E. Collinson. *Any other variety*.—1, T. Horsman, jun. 2, T. E. Collinson. **POUTERS**.—1, J. E. Crofts. 2, G. Sadler. **ANTWERPS**.—1 and 2, J. W. Stansfield. **JACOUBINS**.—1, J. E. Crofts. 2, G. Sadler. **FANTAILS**.—1, G. Sadler. 2, W. H. Clarke. **OWLS**.—*English*.—1 and 2, J. W. Stansfield. **TEMPERATES**.—1, E. Williams & Son. **BARBS**.—1, J. E. Crofts. 2, T. E. Collinson. **TURBOTS**.—1, J. E. Crofts. 2, W. Clark. **NUNS**.—1, J. E. Crofts. 2, T. P. Carver. **DRAGONS**.—1, Wells & Sherwin. **MAGPIES**.—1, J. E. Crofts. 2, R. Bland, jun. **ANY NEW OR DISQUALIFIED VARIETY**.—1, Wells & Sherwin. 2, J. Grimes. **SELLING CLASS**.—1, T. Horsman, jun. 2, Wells & Sherwin. **EXTRA STOCK**.—1, E. T. James. 2, J. Tinsley.

JUDGE.—Mr. Cannan.

#### HANTS AND BERKS AGRICULTURAL SOCIETY'S SHOW OF POULTRY, &c.—ABINGDON.

THE progress of this deserving Association is truly remarkable. A few years since it was open for a few hours of one day at a small Hampshire market town, now it covers several acres. Its entries count by hundreds, and its visitors by tens of thousands. It is a busy scene. We suppose it arises from the fact that everybody at an exhibition is more or less on the loose, or that paterfamilias when he goes home is expected to take something for everybody from mater downwards, or that the many couples that tell themselves off are looking forward and either buy or promise to buy; but it is a fact, some parts of the stalls remind one of a continental fair. Such receipts for mending china—a willow-pattern plate broken across and mended with this cement continues entire, although it is suspended at top through two holes by a strong cord, and the lower half is tied by a half-hundred weight hanging to it. One most persevering individual wished to borrow everybody's knife that he might rub it on a poker, and then restore the sharp edge by the use of a steel of his own. Every sort of cart and carriage. Gates that even a donkey cannot open. Portable-folded seats, handy to carry, very light, and most comfortable when in use. Such dairy appliances—we must call them beautiful. Such churns, invaluable if they will do half that which they are warranted to do. Garden seats and flower pots in every material. Whatever the cause may be, school of design or otherwise, no one can deny or be blind to the wonderful improvements in the designs of these beautiful manufactures. Pumps of every description. Steam engines crushing stones, throwing water, digging holes, hoisting straw, and obedient as any slave of the lamp. Sewing machines of every sort. Children's useful toys, such as gardening tools, wheelbarrows, and perambulators. Giant seed establishments boasting every decoration. The English are a sporting people. How they run to the announcement, "The horses are going to the ring," and how they enjoy the riding round and the jumping. Then the two military bands discoursing sweet sounds at different places; and then the ring in which the dogs are judged, most competitors in the hands of their owners. The dear pug that will not leave its mistress, and seems aware he has got into mixed company.

The good old town—and there is no doubt of its antiquity—was *en fête*. The streets lined with lofty masts covered with striped calico, and bearing banderolles and flags. Ropes spanning the streets, from which were suspended all the colours we have seen for years. We almost fancy that like Albert Smith's sponge-cake elephant at the supper, we recognise some of the decorations, having seen them at many. If good wishes are worth anything "Agriculture" should do well. She had "Welcome" in all directions, and it seemed the universal wish that she should have "success" and "prosperity." We have been to many towns in our lives, but never before to one of this magnitude

where there was no conveyance of any kind. When we left the train we found "led dogs," "baskets of poultry," and men and boys. We asked for a conveyance, and they stared us an answer. "Martha Muggins's donkey cart" would have been a luxury. It is not desirable to have to carry even the small "impedimenta" necessary at this time of year. We were painfully reminded of the fact, when a small boy read our thoughts and offered to carry the small trunk and to show the way. We reached food and bed in safety, and early the following morning visited the poultry.

The *Dorkings* were very good, but we doubt the wisdom of having a Silver-Gray class. We would give the amount of the six prizes to an open class of the breed. The *Buff Cochins* had some good specimens, but many of them were hideously vulture-hocked. The same may be said of the *White*. The same appendage prevailed among the *Brahmas*, which were otherwise good birds. These vulture hocks are a disputed point. They are of recent introduction. The institution of shows was for the improvement of domestic poultry. No one can say the vulture hock is an improvement. Domestic poultry is for the table, it was intended to supply markets with better food. Vulture hocks increase trouble in preparing for market, and can have no beneficial effect on the flesh or growth. The *Spanish* were good, but the best pen in the class, No. 43, was disqualified on account of flagrant and unwise trimming. The *Game* were excellent in both classes, and here another question will arise. To the present time an undubbed cock was disqualified, but now they increase in numbers. There were very good *Hamburghs* shown in all the classes, the prizetakers deserved their honours. They were good birds, both *Spangled* and *Pencilled*. The *Pencilled* hen in '73 was perfect. *Polands* were good but not numerous. We advise that next year there should be one class for *French* fowls, and that the six prizes should be of the same value, but made into four instead of six. There were good *Houdans*, and an excellent pen of *Crève-Cœurs*. *Game Bantams* showed well, but the question of dubbing suggested itself again, undubbed birds show at a great disadvantage. Our old favourites the *Sebrights* can hardly hold their own. The Variety class brought *Black Hamburghs*, *Dumplings*, *Malays*, *Silkie*s, &c., and many excellent specimens. The *Rouen Ducks* were good, but it is hard to decide between young and old at this time of year. The *Aylesbury Ducks*, *Geese*, and *Turkeys* were all good, especially the two latter. They were shown in capital feather and were very heavy.

*Pigeons* formed no mean part of the Show, beginning with *Pouters*, then an excellent entry of *Carriers* and *Jacobins*; small numbers of *Fantails*, but very good, having tails of thirty and thirty-three feathers; a great show of good *Turbits*, and fourteen entries of *Dragoons*—nine of them figured in the prize list, fifteen entries of *Magpies*, ten of *Antwerps*, twelve of varieties, and twenty-two of homing *Pigeons*.

*Lop-eared Rabbits* measured none less than 19, but some reach 20 inches. The *Hare Rabbits* were few, but two of them, the prizetakers, were as good as we ever saw. There were thirteen entries in the *Various* class. The *Silver-Grays* were the best, but there were also very good *Himalayans*.

The weather was favourable, and it was a holiday week for all but the Committee, who, headed by the ubiquitous Mr. Downes, were wherever their presence was required.

**POULTRY.—DORKINGS.**—Coloured.—1, T. C. Burnell. 2, Mrs. Allsopp. 3, Mrs. M. D. Dunn. *Other varieties*.—1, S. Salter. 2, T. C. Burnell. 3, J. Calcott. **COCHINS.**—Buff.—1, T. C. Burnell. 2, Mrs. Allsopp. 3, Miss J. Millward. *Other varieties*.—1, A. W. Warde. 2, Rev. S. S. Woodgate. 3, Mrs. H. S. Sieve. **BRAHMAS.**—Dark.—1, Mrs. Radcliffe. 2, W. Smart. 3, E. Ayre. **Light.**—1, Rev. N. J. Ridley. 2 and 3, Mrs. S. Browne. **SPANISH.**—1, E. Jones. 3, Thomas. **GAME.**—Black Red.—1, W. H. Staeg. 2, J. Loader. 3, J. Meer. *Other varieties*.—1, Miss Osborn. 2, J. Loader. **HAMBURGH.**—Gold or Silver-spangled.—1, J. Carr. 2, J. Messer. 3, J. Colgrove. **Gold or Silver-pencilled.**—1, G. Packham. 2, J. Carr. 3, J. Long. **FRENCH.**—Houdans.—1, G. Day. 2, W. D. Strange. 3, H. Shorney. **Crèves.**—1, Rev. J. H. Ward. **POLANDS.**—1, J. Hinton. 2, C. Bloodworth. 3, J. Long. **BANTAMS.**—Game.—1 and 2, W. S. Marsh. 3, F. S. Hockaday. *Other varieties*.—1, F. C. Fraser. 2, Mrs. H. A. Sieve. **White.**—1, E. H. Morland. *ANY OTHER VARIETY.*—1, J. Hinton. 2, J. Long. 3, Miss C. E. Palmer. **DUCKS.**—Rouen.—1, J. Geo. 2, Miss M. Bowles. **Geese.**—1, T. C. Burnell. *Aylesbury.*—1 and 2, T. Kingsley. 3, Mrs. Radcliffe. *Fancy.*—1, W. D. Strange. *Geese.*—1 and 3, T. Kingsley. 2, W. Turvill. **TURKEYS.**—Cock.—1, Rev. N. J. Ridley. 2, E. Withington. 3, W. Turvill.

**PIGEONS.**—*Pouters.*—Cock or Hen.—1, G. Webster. 2 and 3, J. Stoddart. *Carriers.*—Cock or Hen.—1, H. Yardley. 2, W. G. Flanagan. 3, J. Calcott. *Jacobins.*—Cock or Hen.—1, 2, and 3, S. Salter. *Fantails.*—Cock or Hen.—1 and 2, J. F. Lovelidge. 3, Miss J. Millward. *Turbits.*—Cock or Hen.—1, S. Salter. 2, T. C. Burnell. 3, T. Holmes. *Dragoons.*—Cock or Hen.—1, G. Prentice. 2, W. G. Flanagan. 3, J. Lush, jun. *Magpies.*—Cock or Hen.—1, F. P. Bulley. 2 and 3, S. Salter. *Antwerps.*—Short-faced.—Cock or Hen.—1, W. H. Dunman, jun. 2, Pigott & Valters. 3, W. D. Richardson. *ANY OTHER VARIETY.*—Cock or Hen.—1, H. Yardley. 2, G. Webster. 3, F. P. Bulley. **HOMING.**—Cock or Hen.—1 and 4, W. G. Flanagan. 2 and 3, C. J. Butler.

**RABBITS.**—*Lop-eared.*—Buck or Doe.—1 and 2, A. Madgwick. 3, T. Wood, jun. *English Hare.*—Buck or Doe.—1, A. M. Murphy. 2, J. Ellis. 3, F. A. White. *ANY OTHER VARIETY.*—Buck or Doe.—1, A. M. Murphy. 2, J. Ellis. 3, F. A. White.

**JUDGE.**—Mr. John Bailly, Mount Street Grosvenor Square, London.

## POULTRY AND BEE NEWS AND QUERIES.

UNDER the general name of "poultry" there have been sold at Paris in the course of 1875, 5,656,779 chickens, 2,156,610 tame Rabbits, 1,583,317 Pigeons, 706,389 Geese, 695,648 Ducks, 479,316

Turkeys, 126,539 kids, 28,660 lambs and sucking-pigs, 14,956 guinea fowls, 21,014 kilogrammes (about 22 tons) of Goose livers, 11,617 kilogrammes (about 11 tons) of cocks' combs, 9,308 kilogrammes (nearly 10 tons) of Ducks' livers, and 121 kilogrammes (more than 2 cwt.) of chickens' kidneys. Altogether, the game and poultry sold during the year represented a weight of 21,064,569 kilogrammes (more than 21,000 tons), which is equivalent to an annual consumption of about 25 lbs. for each of the 1,851,000 inhabitants of Paris.—(*Fall Mall Gazette*.)

## OUNDLE SHOW OF POULTRY, &c.

THIS pleasant little annual gathering was held on the 5th inst. The quality was very good, and the awards gave great satisfaction.

In *Dorkings* the chickens of Mr. Burnell were forward and good; we were surprised to see them in for so low a figure. The *Black Reds* were very good in *Game*, the first being a very stylish and good bird. A very promising pair of *Black Red* pullets were shown, which took first; the second were younger, but also good. *Spanish* were good, and we are glad to see this old variety looking up more of late. The *Spanish* chickens were all disqualified for being overdressed. *Cochins* brought some very good entries; a rare *Black cock* was first, as good a bird as we remember to have seen this year. In hens a good *Partridge* was first, a nice *White* second, and a fair *Buff* third. In chickens the first were very forward and matured-looking *Buffs*; a nice pen of *Whites* being third. In *Brahmas* we liked the winners very much; the first cock is stylish, and with his style is deep and massive. The first *Light hen* is a grand hen, and we think will be a bad one to beat. *Light Brahma* chickens were forward and good; but we sometimes really think *Brahmas* have nearly seen their day, and will have to give way to *Cochins* or *Dorkings* once more for being the popular variety. The Variety class contained a grand pair of *White-crested Polands*; the hen a gem, and the cock, though yellow in crest, from the sun we suppose, is a large bird, and carries himself well. *Ducks* were few and good; a nice pair of *Rouen* ducklings won first in their class. A capital pen of *Turkeys* won; second going to a nice pair also, but not so large as the winners. In the *Sale* class a good *Buff* cock was first, while in hens a capital *Partridge* took premier honours, and deserved them—cheap at catalogue price. We wonder why the cock was not to exceed 30s. in price, while the hen might be valued at 40s. *Bantams* were numerous; we believe *Brown Reds* and *Silver-laced* took equal firsts.

**POULTRY.—DORKINGS.**—Cock.—1, E. Snell. 2, Countess of Dartmouth. 3, Rev. F. R. Smythe. *Cockers.*—1, T. E. Burnell. 2, L. Calcott. *Hen.*—1, E. Snell. 2, Rev. F. R. Smythe. **PULLETS.**—1, T. E. Burnell. 2, L. B. Calcott. **GAME.**—Cock.—1 and 2, Mrs. S. Deacon. 3, H. Lotan. *Hen.*—1 and 2, Mrs. Deacon. 3, H. Lotan. **PULLETS.**—1, E. Winwood. 2, S. Tilley. **SPANISH.**—Black.—Cock.—1, J. T. Parker. 2, D. M. Mills. *Hen.*—1, E. Winwood. 2, W. Nottage. 3, J. T. Parker. **COCHIN-CHINAS.**—Cock.—1, E. Snell. 2, H. Tomlinson. *Hen.*—1, 2, and 3, Mrs. A. Tindall. **CHICKENS.**—1, J. M. Skarratt. 2 and 3, Mrs. A. Tindall. **BRAHMAS.**—Dark.—Cock.—1, J. F. Smith. 2, W. Whiteby. *Hen.*—1, J. F. Smith. 2, H. Yardley. **CHICKENS.**—1, F. Pritchard. 2, J. S. Clarke. **Light.**—Cock.—1, Mrs. Peete. 2, Mrs. A. Tindall. *Hen.*—1, Countess of Dartmouth. 2, P. Haines. **CHICKENS.**—1 and 2, G. Breeze. **HAMBURGH.**—Gold and Silver-pencilled.—1, W. K. Tickner. 2, H. Pickles. *Gold and Silver-spangled.*—1, H. Feast. 2, H. Pickles. *who.* W. S. Evans. **BANTAMS.**—1, Mrs. Deacon. M. Leno. *who.* H. Robinson. **ANY OTHER DISTINCT BREED.**—1, T. Norwood. 2, H. Pickles. 3, A. Biggs. *who.* Mrs. A. Tindall. *H. Feast.* E. Snell. **SELLING CLASS.**—Cock.—1, M. Leno. 2, Mrs. A. Tindall. *Hen.*—1, H. Yardley. 2, J. T. Parker. **GESE.**—1, Mrs. Deacon. 2, E. Snell. **DUCKS.**—*Aylesbury.*—1 and 2, E. Snell. *Rouen.*—1, T. E. Burnell. 2, E. Snell. *Any other variety.*—1, H. Yardley. 2 and *who.* M. Leno. **TURKEYS.**—1, Countess of Dartmouth. 2, E. Snell.

## HONEY SEASON NEAR LINCOLN.

THERE is abundance of flowers about here this spring, but the weather has been so cold until recently that the bees could not get out to gather the honey. I have had my hives well covered, but the bees were very late before they would take syrup down from the bottle, and I was doubtful if I should raise a swarm.

Referring to my diary I find the following entries:—Hive No. 1, 18th November, 1875, weight without hive and board 27 lbs., covered up for the winter; 1st March, 1876, first pollen carried in; 11th March, weight 21 lbs. Very little done till the last of the month and the beginning of April. On April 3rd I cut out some mouldy comb. Up to the 29th I had given 1 lb. of sugar; the weight was reduced to 18 lbs. By May 23rd it had gained 2 lbs.; I gave 1 lb. more of sugar, and I saw one drone out on the 21st. I intended to take an artificial swarm on the 30th, the hive was so full, but the weather had been so cold—28th. I went to look at my bees at 10 a.m., and I had a fine swarm on a currant tree close by; I hurried back for my hive, I could not put it over the bees and they had broke the branch down on the ground, so I put most of them in with my hand, and placed the hive by the side of them. I had them on their proper stand within fifteen minutes. It is a 16-inch hive, 13 inches deep; the largest I could procure about here.

May 29th 14 lbs. weight after swarming, so I had about a 6-lb. swarm. I never saw a hive left so empty of bees after a swarm before. If I had taken an artificial swarm I dare not have taken so many out. For three or four days there were very few bees about, and then they began to pull out the brood, so I fed a

little. June 9th they weighed 19½ lbs; bees began to increase in numbers; June 12th, so full of bees that I put on a four-bar-frame super, 6 inches square inside measure, and they took to it at once. On the 16th I put an eke under in the morning, and took off the super at noon with three bars partly full of comb, and some honey. At night I drove out the bees, and took 15 lbs. of honey. It is all spoke for at 1s. per pound. I transferred the bees into a 16-inch square (10½ inches deep inside measure) ten-bar-frame hive, bars 1 inch wide, with the outside bars a little wider, three holes at top for supers and two for feeding. I tied what little comb in the bars I could get with very little brood in. In putting the bees in I was stung once. June 28th, a good swarm placed in the place of the old stock, 16 inches wide, 13 inches deep, weight 8½ lbs., weight of board 7 lbs.; June 12th, weight of hive, &c., 33½ lbs.; June 20th, weight of hive, &c., 45 lbs.; 22nd, a queen bee out dead, it may have come from No. 2 hive close by, as they were piping for the third swarm.

Hive No. 2, sugar-fed bees that I saved from the sulphur pit, November 1st, 1875, three young bees out dead (white ones), weight of hive, bees, &c., and a 7-lb. floor board, 25 lbs.; covered up for the winter, the hive about half full of comb, a large hive for this part of the country. March 1st, 1876, weight of hive, &c., 22 lbs., received 1 lb. of sugar, and to May 8th 3 lbs. more sugar, and they began to build comb; weight of hive, &c., 21 lbs. 23rd, two more pounds of sugar; weight, &c., 23 lbs. I gave 1 lb. more sugar on the 9th of June; weight of hive, &c., 35 lbs., and quite full of bees. I took an artificial swarm out at night of 5 lbs., both stock hive and swarm doing well. June 12th the stock had increased to 33 lbs. again; June 16th began to pipe, so I was only just in time to take an artificial swarm; 19th a false swarm. The queen was the last out of the hive; I caught her, took her 10 yards off, but she escaped from me, and I was just back to see her go in the hive; all the bees returned in a few minutes; a good cast next day, 9.5 A.M.; weight before 37 lbs. At night I cut a queen cell out, but let her escape into the hive. They are still piping up to-day (June 23rd), but it pours with rain.—J. M.

### OUR LETTER BOX.

**PRESERVING EGGS (G. Brown; J. Winnip).**—Put them in layers alternately with common salt in a box, and keep in a cold dry place.

**ADDING BEES TO SWARMS (R. S.).**—Do not turn out your bees now from the old skeps unless you join them the one to the other. You might do this with advantage, making a fair stock of one of them; but you might seriously interfere with the success of the swarms by attempting to increase their population by adding the bees of the old skeps to them now. This is better done in September. Remember that the comb in swarms is very soft and delicate, and any movement of them might bring the whole mass down and ruin the hive.

**WEAK HIVES, CROSS STICKS, &c. (F. J.).**—Very weak hives can be safely treated as "B. & W." suggests; also you can bring the old hive back to a place pretty near the old place. But twenty-four hours is too short a time; twice or thrice that time would be better. If you move the hives apart in the first instance 30 yards it will do, but hide as much as you can. It is not of much importance what the width of the bars is provided you measure 1 inch and 7-16th from centre to centre of each frame, but you may allow one-fourth or three-eighths of an inch between each bar. Box hives 16 to 18 inches square should certainly have cross sticks if over 10 inches in depth; but we would put them near the base of the hive so as to be easily removable—say 1 inch from the bottom. Wire will not do. It is a pity you did not put a cross piece of wood with guide comb in your glasses.

**PRESERVING NATURAL HISTORY SPECIMENS (Agnes).**—A book exactly suited to your need is "Notes on Collecting and Preserving Natural History Objects." It is published by Messrs. Hardwicke & Bogue, and includes zoology, botany, and geology.

**TAMING A YOUNG FOX (M. E. P.).**—We have kept foxes in our time and had them perfectly tame. We always chained them to a very large tree, and they made a kennel under the roots. Where that cannot be they must have a kennel something like a dog's, but they are never so sweet as when they lie on earth. They should have a long chain, and the amount of liberty may be very much increased by having at the end of the chain a ring running on an iron rod fixed in the ground by an upright at each end. It helps to tame everything to keep it well fed. The best food is the offal of poultry, or Rabbits, or Pigeons. Any kind of meat will do if these are missing. You should not feed till the fox comes for the food, but this should not be the result of starvation, but of liking. Never put the food where you cannot see it taken, and you always have the means of correction by withholding food.

**ARTIFICIAL SWARMING (Rev. S. A. Brennan).**—You did well to swarm your bees on the 19th of June, but on discovering foul brood in the old hive shortly afterwards you should not have turned all the bees out of it on the 26th of June. You should have waited till the 7th of July, for then the brood would have been hatched and a young queen reared. If the old hive had not a queen in the cell eight days old at the time you took your artificial swarm, your turn-out or second swarm is now without a queen. The queen of a hive goes with the first swarm, and it takes fourteen days to rear another from the egg to perfection. If your second swarm is working satisfactorily and building worker comb you may conclude that it has a queen which was hatched within eight days of the time of swarming. The time to super hives is when they become full of combs and bees. Neither of your swarms will fill their hives for a month.

**FEEDING BEES—WEIGHT OF STOCK (Jane).**—Either your muslin or your syrup has been too thin. In feeding bees from the top with a bottle a piece of cotton cloth is tied over its mouth before it is inverted, and placed over the aperture. Or better still, a piece of perforated vulcanite (made and sold for the purpose of feeding) is placed over the aperture, and the bottle is placed

inverted on it. Many bee-keepers like top-feeding, and find the bottle and vulcanite answer very well. An 18-inch stock hive with a good population should weigh about 40 lbs. in September to be safe for the winter and early spring months. Stocks of this kind consume about 15 lbs. each of food from September to March. In open winters bees fly much about, and therefore consume more than they do in cold and stormy winters.

**BEES CLUSTERING OUTSIDE HIVES (J. D. Leeds.).**—We consider that to let bees cluster outside a hive and in large masses below the board in July is not good for either the bee-master or the bees, and when this clustering is permitted to go on for weeks a great loss is sustained.

**ZEBRA GRASS PARAKEETS AND GRASS SEEDS (G. H. P.).**—In a state of natural freedom on the plains of South Australia, Zebra Grass Parakeets live almost entirely on the ground feeding on the seeds of grasses. In answer to your question "whether grass seeds may be given and what kinds?" we reply by stating that you should select the smaller sorts in preference to others, some of which are so coarse as to be suitable only for cattle. We could name upwards of thirty kinds of grass seeds, among which are those known as the vernal, bent, panic, galangale, sedge, feather, hair, rope, reed, meadow, dogtail, foxtail, cattail, cocksfoot, couch (known as squitch or twitch), and many others, amongst which canary and millet are considered as two kinds in the genera of grasses. But it would be unwise to give the Parakeets indiscriminately any coarse kinds of grass seeds. In their native climate no doubt they have many varieties to choose from, and their instinct may lead them to be somewhat epicurean in their appetites. We cannot inform you what kinds of grass seeds they prefer. Our experience has convinced us that Zebra Parakeets can enjoy good health on a canary and millet seed diet.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876.	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Shade.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
July.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 5	30.07	64.7	60.5	S.W.	64.6	75.7	56.9	117.9	55.0	0.175	
Th. 6	30.022	64.5	59.0	S.W.	64.5	75.6	56.9	117.2	55.1		
Fri. 7	29.813	65.2	60.0	S.W.	64.7	77.3	60.6	125.2	58.0		
Sat. 8	29.739	69.0	62.6	S.W.	65.4	76.2	59.9	128.0	57.3	0.020	
Sun. 9	30.021	64.0	57.2	N.W.	64.3	77.6	54.5	129.0	54.3	—	
Mo. 10	30.030	62.7	53.9	W.	64.9	71.5	52.1	125.2	48.6		
Tu. 11	30.219	62.0	52.3	W.	64.2	68.2	50.4	131.3	46.2	—	
Means.	29.976	61.7	57.9		61.6	74.3	56.3	124.4	53.2	0.19 5	

### REMARKS.

5th.—Cloudy all day; a slight gleam of sun in middle, and slight shower about 10 P.M.

6th.—Cloudy, with occasional sunshine; rain at night.

7th.—Fine morning, but rather dull after, especially about 5 P.M.

8th.—Dull morning and early afternoon, shower at mid-day; fine evening and night.

9th.—Dull morning, fine afternoon and evening, though the latter was rather cool.

10th.—Fine bright fresh day throughout; cold at night, in fact the coldest during the week.

11th.—Another comparatively cool day, but very pleasant, though rather overcast and rain-like at times, and even cooler than yesterday.

A fine warm week; westerly wind, but very little rain.—G. J. SYMONS.

### COVENT GARDEN MARKET.—JULY 12.

Prices remain the same; a fair supply and moderate demand.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	1	6 to 5 0	Mulberries.....	lb.	0	0 to 0 0	
Apricots.....	box	1	6 to 4 0	Nectarines.....	dozen	6	0	21 0	
Cherries.....	lb.	0	6 to 1 0	Oranges.....	3 100	6	0	12 0	
Chestnuts.....	bushel	0	0 to 0 0	Peaches.....	dozen	6	0	30 0	
Currants.....	½ sieve	0	0 to 0 0	Pears, kitchen.....	dozen	0	0	0 0	
Black.....	do.	0	0 to 0 0	Desert.....	dozen	0	0	0 0	
Figs.....	dozen	9	0 to 15 0	Pine Apples.....	lb.	2	0	6 0	
Fibers.....	lb.	0	0 to 0 0	Plums.....	½ sieve	0	0	0 0	
Cobs.....	lb.	0	0 to 0 0	Quinces.....	bushel	0	0	0 0	
Gooseberries.....	quart	0	3 to 0 9	Raspberries.....	lb.	0	6	1 0	
Grapes, hothouse.....	lb.	2	0 to 6 0	Strawberries.....	lb.	0	4	2 0	
Lemons.....	3 100	6	0 to 12 0	Walnuts.....	bushel	0	0	0 0	
Melons.....	each	2	0 to 8 0	ditto.....	3 100	0	0	0 0	

#### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	4	0 to 6 0	Leeks.....	bunch	0	4 to 0 0	0	0
Asparagus.....	3 100	1	6 to 6 0	Mushrooms.....	pottle	1	0	2 0	
French.....	bunch	1	0 to 0 0	Mustard & Cress.....	2 "	0	0	0 0	
Beans, Kidney.....	3 100	0	6 to 1 6	Onions.....	bushel	3	0	5 0	
Beet, Red.....	dozen	1	6 to 3 0	pickling.....	quart	0	0	0 0	
Broccoli.....	bunch	0	9 to 1 6	Parsley.....	doz. bunches	2	0	4 0	
Brussels Sprouts.....	½ sieve	0	0 to 0 0	Parsnips.....	dozen	0	0	0 0	
Cabbage.....	dozen	1	0 to 2 0	Peas.....	quart	0	9	1 6	
Carrots.....	bunch	0	4 to 8 0	Potatoes.....	bushel	2	6	8 0	
Capiciums.....	3 100	1	6 to 2 0	Kidney.....	do.	0	0	0 0	
Cauliflower.....	dozen	1	0 to 4 0	New.....	lb.	0	0	0 0	
Celery.....	bunch	1	6 to 2 0	Radishes.....	doz. bunches	1	0	1 6	
Coleworts.....	doz. bunches	2	0 to 4 0	Rhubarb.....	bunch	0	3	9 0	
Cucumbers.....	each	4	0 to 1 0	Salsify.....	bunch	0	9	1 0	
Endive.....	dozen	1	0 to 2 0	Scorzoneria.....	bunch	1	0	0 0	
Fennel.....	bunch	0	8 to 0 0	Seakale.....	basket	0	0	0 0	
Garlic.....	lb.	0	6 to 0 0	Shallots.....	lb.	0	8	0 0	
Herbs.....	dozen	0	8 to 0 0	Spinach.....	bushel	1	3	6 0	
Horseradish.....	bunch	4	0 to 0 0	Tomatoes.....	dozen	1	6	3 0	
Lettuce.....	dozen	6	0 to 1 0	Turnips.....	bunch	0	4	0 6	
French Cabbage.....	1	0	0 to 0 0	Vegetable Marrows.....	0	2	0	8 0	

## WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 20—26, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
20	Th	Royal Horticultural Society's Show closes.	73.2	50.2	61.7	4	9	8	3	2	19	8	12	29	6	2
21	F	Thornton Heath Show.	74.0	50.8	62.4	4	10	8	2	3	49	8	44	0	6	5
22	S	Royal Botanic Society at 8.45 P.M.	72.2	51.4	61.8	4	12	8	1	5	26	9	4	1	6	8
23	Sun	6 SUNDAY AFTER TRINITY.	74.0	51.4	62.7	4	13	7	59	6	59	9	20	2	6	11
24	M		72.6	51.7	62.1	4	14	7	58	8	26	9	38	3	6	18
25	Tu	Tewkesbury and Wrexham Shows.	73.9	49.4	61.9	4	16	7	57	9	49	9	44	4	6	14
26	W	Aberdeen and Huntingdon Shows.	73.7	50.3	62.0	4	17	7	55	11	8	9	56	5	6	15

From observations taken near London during forty-three years, the average day temperature of the week is 74.8°; and its night temperature 57.8°.

## RHODODENDRONS AT DUNEEVAN.



NOT more famed is the beautiful garden of Mr. McIntosh for the unequalled display of *Lilium auratum* in summer and autumn than for the choice and extensive collection of Rhododendrons, which produce a spectacle of gorgeousness in the earlier days of spring. These two plants—*Liliums* and Rhododendrons—are associated together and are grown by hundreds, if not by thousands, each receiving the best cultural care, and each in their seasons producing an effect which no other plants can equal.

Duneevan was visited last year when the *Liliums* were in beauty, and notes of them may be found on page 295, vol. xxix.; it was visited again this year when the Rhododendrons were in their splendour, and a few notes of that visit may fittingly have a place in your pages. To adequately describe the effect of the glowing masses is impossible, as by the pencil it would be futile; it may nevertheless be useful to append a few remarks, seeing that a selection of the best varieties chosen from a collection so extensive and so rich cannot fail to be reliable as comprising some of the very best and most effective varieties of the day. The notes, therefore, taken at flowering time may be preserved for planting time, and those who add the varieties to their collections may plant in confidence that they will have "something good."

The general effect of the Rhododendron beds is heightened by their position. These beds are on an irregular lawn, and which also contains many perfect specimens of choice Conifers. Mr. McIntosh's garden has, like the Crystal Palace, "high level" and "low level" stations. The Rhododendrons are on the low level, and viewing them from above—that is, from the brow of the bold natural terrace, the effect when in bloom is magnificent. They are arranged with the greatest care as to the mixing of their colours, so that the whites, pinks, purples, and crimsons show to the greatest advantage. The work of planting and arranging the plants tastefully is an annual task of no small magnitude. Each year the newest varieties are added, and each year older and commoner sorts are removed, and a general redistribution necessarily follows.

In order to expedite planting correctly a simple but very effectual expedient is adopted by Mr. McIntosh. Previous to removal and planting every plant is "coloured"—that is, the colour of its flowers is shown by a shred of some textile fabric, which is tied on a topmost branch. It is easy to perceive the value of this simple plan when large numbers of plants must be removed and planted in different positions in a garden. Much time is saved in searching for and reading the labels, and mistakes in planting are reduced to a minimum.

In this great collection every plant has its name and colour plainly written by Mr. McIntosh on a zinc label; but so practically acquainted is the owner with his plants that almost every variety is known to him without re-

ference to the tallies: the correct naming of the plants, however, adds much to the value of the collection, and renders it additionally enjoyable and instructive to the many visitors who have not a particular acquaintance with the several varieties. Besides the plants in the beds there are fine standard specimens on the lawn, than which few objects are more ornamental. A trio of these standards—*Scipio*, *Archimedes*, and *John Waterer*, were extremely effective, the last-named having last year 114 glowing trusses expanded. Other standards are *Joseph Whitworth* and *Barclayana*, both superior varieties.

As comprising some of the most striking sorts which were flowering in the beds the following were noted as superior:—

*Mrs. R. Holford*, rich salmon; fine bold truss. Remarkably effective.

*Lady Claremont*, rosy scarlet; large and good.

*Charles Bagley*, crimson; very free and fine.

*Lady Armstrong*, rosy pink; splendid trusses. Very superior.

*Arthur Helps*, rich crimson edge, light centre; fine.

*Titian*, clear rosy scarlet. One of the best.

*Countess of Normanton*, soft lilac, richly spotted; a grand truss. Excellent.

*Princess Mary of Cambridge*, rosy purple and white; very attractive.

*Countess Granville*, purple edge, white centre; splendid truss. Very striking.

*Mrs. William Agnew*, warm rose and yellow; grand truss, and altogether superior.

*John Walter*, glowing crimson; fine pyramidal truss. Very effective.

*Frederick Waterer*, somewhat similar to the preceding. Very good.

*Kate Waterer*, rosy crimson, greenish yellow centre, superbly spotted. A splendid variety.

*Purpureum elegans*, rich deep purple. One of the best of its class.

*Madame Van der Weyer*, rose; fine truss.

*Lord Palmerston*, rose; very large truss. Early and effective.

*Sir J. Sebright*, red, bronze blotch; free and fine.

*Dhuleep Singh*, nearly black.

*Pictum*, or *Lowii*, white and yellow; very effective.

*Gloriosum*, soft lilac, fringed; bold truss. Excellent.

*Lord Eversley*, rich crimson; exceedingly fine.

*Notabile*, warm rose, dark spots; grand in truss and foliage.

*Charles Dickens*, crimson; very striking and effective.

*Mrs. Shuttleworth*, scarlet, light centre; a very fine variety.

*Mrs. Milner*, rich glowing crimson; dwarf and good.

*Mark Antony*, lilac, bronze eye; very effective.

*James Marshall Brooke*, crimson and bronze; very fine.

*James McIntosh*, rosy scarlet; a very superior variety.

*Kettledrum*, purplish crimson; rich and fine.

*The Queen*, white and greenish yellow; a queenly flower, pure and majestic.

*Stella*, rose, richly blotched; very fine.



*Raphael*, crimson; noble truss. Very brilliant.

*Alaric*, rich claret; very free and very fine.

*Mrs. John Clutton*, white and yellow; a superior and charming variety.

*Purity*, somewhat similar to the above; excellent.

*James Bateman*, crimson, white stamens; noble truss. Very handsome.

*Alexander Dancer*, rosy crimson; very beautiful.

*Mrs. T. Waine*, purplish rose; free and fine. One of the best.

*Madame Masson*, white and yellow; a charming variety.

*Album Triumphans*, somewhat like the preceding; very good.

*Cruentum*, rich lake; splendid.

*Standish's Perfection*, white and yellow; an excellent and telling variety.

The above are a few of the best varieties which were flowering in Mr. McIntosh's rich and extensive collection. They may be considered as possessing sterling merit, and worthy of being added to all collections not containing them. Rhododendrons are grown at Duneevan in great perfection. The soil is naturally light, and the subsoil is moist. Water is "laid on," and is given to the beds as they require it, and there is no spoiling of the plants by crowding. The grounds are in the most perfect order imaginable, not a blade of grass being out of place, or a daisy, stray leaf, or weed to be seen on lawn, border, or walks. It is indeed a model garden, owned by a liberal and appreciative possessor, and in the care of an industrious and able gardener, Mr. Taylor.

On the occasion of a former visit the extraordinary terms of confidence and friendship which existed between Mr. McIntosh and his feathered friends was noticed by the robin picking the crumbs from the mouth of its protector, following him about the lawn, ever on the watch for a kind word and a dainty morsel. The same good feeling continues to exist, and almost similarly familiar is a thrush, a bird usually so timid and mistrustful; but what may not be accomplished by kindness and perseverance?—J. W.

### THE COLOURING OF GRAPES.

From what I have both seen and read I fear that brown and red Grapes are unusually prevalent this season. It is not easy to account for this; in fact, in all cases it is impossible to do so, but I have a strong suspicion that much of the evil is due to insufficient support at a critical period. I suspect that many are afraid to water their Vine borders when the fruit is approaching ripeness. That, above all others, is the time when the Vines especially need support. For some time the sun has been very powerful and the air dry, transpiration from the foliage has been extreme and possibly excessive—that is, the fruit has been deprived of the support necessary to perfect it in obedience to the demands of a dry atmosphere and a disproportionate amount of water to meet those demands, and to provide a surplus as it were of nourishment for the full and due support of the Grapes.

It is sometimes, if not frequently, forgotten that the fruit of a Vine or any other tree is almost solely dependant on what may be termed a surplussage of support to perfect it. If the supply of nourishment is on a limited scale the fruit does not have priority, and have the "first cut" as it were, leaving the "crumbs" for the extension and general sustenance of the Vine; but first of all the structural wants of the Vine must be attended to, the demands of a dry atmosphere must be met, and evaporation and transpiration must and will go on, even if the fruit is deprived of necessary support. It may be urged that the primary object of a tree is to perfect its fruit, but that dictum can only be admitted by acceptance of the important point that the tree must be a perfect tree before it can produce perfect fruit.

In the matter of Vines when the Grapes are imperfect it is simply an expression of the imperfect state of the Vine producing them. The structural parts of the Vine—its construction and extension—have, with the extraordinary demand of a dry and highly heated atmosphere, required all the support that the roots could supply, leaving an insufficient surplussage for perfecting the fruit. That is the great and main cause of a deficiency of colour in Grapes. The deficiency may appear to be traceable to other causes, as the sudden and violent removal of foliage, checks arising from sudden variations of temperature, &c., but in reality the cause is the same—a deficiency of support at a critical period.

An uncoloured Grape is an imperfect Grape. It may be juicy, of full size, and even of good flavour, but it is still im-

perfect, lacking something that it ought to have had, accounting for its deficiency. The skin of an uncoloured Grape is defective, being deficient not only in colour but also in substance, and these deficiencies arise from the same cause—inadequate support. This is plainly shown in the case of over-cropped Vines. That is the greatest cause of the non-colouring of Grapes; yet some Vines, which are apparently not heavily cropped, do not produce perfectly coloured Grapes, but that in general means that the constitution of the Vines is weak, and though they are not apparently heavily cropped they are so in reality, and the Grapes do not receive the support which they need to carry them to perfection.

Very frequently Vines are deprived of much support by some mismanagement at the time of colouring. Common it is that as soon as the Grapes show colour to keep the air of the house as dry as possible. Not a plant must be watered in the house or a drop of water spilled on the paths, the border containing the roots receiving at the same time an extra supply of water. It is only Vines that are in full vigour and lightly cropped that can colour their Grapes under that practice. The drier the air of a house is kept the greater is the demand of the foliage for moisture from the roots. Transpiration is then increased to a considerable extent, and it is not until the foliage is satisfied and has exhausted itself in attempts to satisfy the thirsty air that material support can be afforded to impart substance and colour to the skin of the Grapes. Where a dry atmosphere is produced extra water must always be supplied to the roots of the Vines, to meet the necessarily greater demand for moisture which the foliage and the air require. But while the air of vineries is frequently kept dry during the colouring period it is not by any means the rule to give extra water to the roots, and consequently the fruit is deprived of support at the very time that extra support is needed, and imperfectly coloured fruit is the natural consequence.

It is not necessary or advisable to keep the atmosphere of a house perfectly dry at the time the Grapes are colouring; air cannot be admitted too freely, but the atmosphere should also be in a moderately moist state. If we look at Vines which are grown in the open air, we note that they generally colour in the most perfect manner under the heavy dews and frequently heavy rains of autumn. A thirsty atmosphere does not at that period exhaust the Vines, but they hold in store sufficient support to be appropriated by the fruit. The fruit also colours at that period even in dull weather, and when daylight is neither intense nor of long duration. This suggests that glaring light is not a requisite of black Grapes at the colouring period. Cultivators should therefore be cautious in removing laterals at that time, or more light may be admitted than is needed, and at the same time a check be given to the flow of sap.

At the colouring period above all others there must be no check by any cause. Instead of withholding support by producing a dry atmosphere, extra support should be given. Moisture in the atmosphere may be reduced when the Grapes commence colouring, but an additional supply must be given to the roots to meet the increased demands of the Vines, which must necessarily follow when the air is kept drier than it has been heretofore. It is an excellent plan as soon as colour is seen on the Grapes to give a soaking of tepid manure water to the borders. That is just the time when support is specially needed, not only because the crop just then exerts the greatest exhaustive strain on the Vines, but because a drier atmosphere is calling aloud and must have its share of moisture, which would otherwise be appropriated by the stems and fruit.

In colouring Grapes there are three points worthy of being kept in mind. There must be no checks by a sudden removal of laterals, a free circulation of air is essential, and an adequate supply of water (especially to the roots) is indispensable.—A NORTHERN GARDENER.

### GLORIOSA SUPERBA.

MANY years ago this plant was grown in a garden in which I was a very youthful helper, and I remember admiring its singular form and attractive markings. It was much valued as affording cut flowers, of which too many of them could never be produced. The plant was grown in a Pine pit, starting the roots in spring, and keeping the pot plunged in the tan of the pit. I left that place when still a youth, and for a quarter of a century never once saw a plant or flower of the *Gloriosa*. It was, however, firmly impressed on my mind, and I was delighted to recognise my old favourite



in a stand of flowers belonging to Mr. Cypher at the last Aquarium Show. There it was in all its quaintness, so singular and conspicuous as to arrest the attention of many visitors, not one in ten, even amongst the gardeners, knowing what it was. I was amused at overhearing some whispered discussions amongst groups of young men, some of whom considered it to be an Orchid, others deciding it to be a "Lily of some sort." It was, however, my long-lost flower the *Gloriosa superba*.

I am surprised that a flower so striking is not in more general cultivation, and I am sure it would be useful if any who happen to be familiar with its mode of culture and increase would communicate their experience. For myself I am not able to say more than that it is a distinct, singular, and beautiful flower, green at first, afterwards assuming yellow and brown tints. It is totally unlike any other flower that I am acquainted with, and I think must be worthy of extended culture. Can any of your readers throw any light on this remarkable plant and the best mode of growing and flowering it?—W. T. S., *Batham*.

### SIR JOSEPH PAXTON STRAWBERRY.

COMPLAINTS have arisen of this valuable Strawberry proving barren during the first season after planting. I have experienced the same result on more than one occasion, but have never failed being rewarded with splendid crops in succeeding years. I cannot conceive a greater mistake being made than destroying healthy plants of this Strawberry because they produce "nothing but leaves" the first season—that is, assuming that the runners are known to have been produced by fruitful parentage.

Sir J. Paxton is particularly prone to unfruitfulness when in a young state if growing in light soil. Plants growing robustly in soil of this nature should not be watered or manured, but the soil should be trodden very firmly round the roots. The plants must not be crowded by their own foliage, by runners, or by weeds. If the plants are too thick thin them out, removing if necessary every alternate row, so that light and air can have free access to the crowns. When this is done it is not necessary to cut off the foliage. Cutting off the foliage of plants growing closely together may induce fruitfulness, but the fruit will not be large; whereas by growing the plants thinly and allowing the foliage to remain will almost certainly result in superior fruit.

Sir Joseph Paxton is one of the most useful of Strawberries, producing heavy crops of handsomely shaped highly coloured fruit of good flavour, suitable alike for exhibition purposes and dessert; it is also good for preserving.

I have "assisted" at most of the principal horticultural exhibitions of this year, and I have observed that more than half of the prizes offered for Strawberries have been won with Sir Joseph Paxton. My advice to "J. T." and others similarly circumstanced is not to consider their plants as cumberers of the ground—not to dig about them and dung them, but to firm the soil in which they are growing, to keep them free from weeds or anything impeding the free action of sun and air to the crowns, to give the plants another year's trial and tell us of the results. As has been the case in my experience, the verdict will be, I think, that this is one of the most useful Strawberries in the garden.—AN EXHIBITOR.

### PROMOTING THE GROWTH OF EVERGREENS.

We have operated on twenty-seven sorts of Conifers, also Portugal Laurels, Evergreen Oak, Box, and Rhododendron, in all about sixty plants. The Conifers have been planted round the house for from fifteen to twenty-three years, and they average from 15 to 30 feet in height, but some of them are 40 feet high. We had observed that for the three or four years before the operation the trees had become stunted; and Mr. Thornton of the Heatherside Nurseries gave it as his opinion that they were root-bound, and recommended the following treatment—viz., to take out the soil all round each tree for about 6 feet from the stem and fill-in with fresh soil. This was done to the depth of 18 inches by about 2 feet in width; the earth below the 18 inches having been broken up and left rough. The soil consisted of stiff loam to the depth of a foot and afterwards 3 feet of blue clay. About 8 inches of clay was removed, and the loam was mixed with sand and gravel. All large roots extending across the trench were left. The effects did not appear last summer—i.e., the summer

after the operation, but this year the growth has been extraordinary, especially in the Cedars, Wellingtonias, Deodars, &c. The Evergreen Oaks, which showed daylight through, are now dense with thick foliage—in fact the renovation is complete. Why would not this answer in every sort of stunted tree in orchards and elsewhere?—OBSERVER.

### STOCKS FOR ROSES.

HAPPENING to come in contact with a great grower of Roses—one of the working bees who has produced some of the finest blooms that have ever been exhibited, winning high honours for their owner—I asked his opinion as to the best stocks for Roses. This man told me willingly all he knew, concluding in his own plain vernacular in the following words—"I'll tell you what it is sir, there's a lot o' rot about Rose stocks."

He recounted that he had been growing prize Roses for many years, and assured me that if he had been limited to the use of one kind of stock—whether Manetti, hedgerow Briar, or seedling Briar—that he should not have gained half the prizes for his employer that he has done. He assured me as a large grower and regular exhibitor that in some seasons one stock is the best, and in other seasons another produces the best blooms, and that the only way to ensure the best Roses over the greatest length of time and in different years is to grow Roses on all sorts of stocks. By all sorts he means Manettis, hedgerow Briars, seedling Briars, and Briars from cuttings, having also some Roses on their own roots.

For garden decoration he considers Roses from cuttings highly suitable, but they give but a small proportion of exhibition blooms.

The seedling Briar he considers a good stock, but not better than cutting Briars, and invited me to see hundreds of plants growing side by side, some of the stocks having been raised from seed and some from cuttings, and of which it was not easy to say which were the best. He considers stocks from cuttings fully as good as stocks from seed, and in fact is inclined to give them the preference, but only on the ground, I think, that they are more quickly raised. His opinion is, that if people have a fancy to have stout plants on the seedling Briar they must be prepared to pay for their fancy on account of the time required to raise the stocks to a size ready for working.

Manettis he considers are not adapted for cold heavy soils; but for rather light soils, and where plenty of water can be given, or the ground can be heavily mulched with manure, no stocks can produce finer blooms. He has also a great respect for the old hedgerow Briar, provided the stocks are good and are planted in good time. Especially early in the season he states that he cuts more prize blooms from the Briar than from any other stocks, and that if he was ordered to cease growing the old Briars he should have to cease exhibiting, or at least would be absent from many shows at which he now stages first-class collections.

No one, he asserts, can win large prizes year by year who grows only one kind of stock. Such may during some seasons sweep the boards, but a blank is sure to come, simply because no one stock is the best stock for all seasons and under all circumstances. "If you want to win, sir," said my informant, "take my advice and grow on all the stocks, and the probability is that well-selected and well-managed Briars, much as has been said against them, will give you more first-class blooms than any other stocks;" concluding with the above remark, that there is "a lot o' rot about Rose stocks."

I was much impressed with the remarks of this experienced and actual worker amongst Roses, thinking they contained much truth, and I am inclined to think also that they are worthy of a place in the Journal.—M. D.

### PORTER'S EXCELSIOR POTATO.

OBSERVING that one of our leading firms have submitted tubers of this Potato in proof of its earliness, I may note that it is not only an early Potato, but is also of excellent quality. It is not, however, contemporary with our earliest sorts, but ripens about the same time as Myatt's Prolific, which may be called early for a round Potato. Excelsior is also fairly productive, and the quality is good. But it is as an exhibition Potato that this variety will be most esteemed, nearly every root, in proper soil, producing tubers of the correct size and remarkably handsome, equalling, if not surpassing, the best samples of Paterson's Victoria in October. For summer exhibitions of vegetables where round Potatoes are seldom attrac-

tively shown Porter's Excelsior will be found to carry considerable weight where a good dish of round or pebble-shaped Potatoes are required. In fact it is for purposes of exhibition that this Potato will be primarily cultivated, the quality of older varieties being not only equal to it for table purposes, but they can be more cheaply produced. Those requiring a handsome Potato should add Porter's Excelsior to their lists of sorts and so gratify their fancy; for there is now-a-days much enjoyment derived from growing Potatoes to "look at."—F. F.

### ASARUMS.

MANY moist places in our shady walks often present a naked and bare surface. These are the very places the Asarums should occupy. Some of them were introduced from other countries, as *Asarum canadensis*, which is said to have found its way to us from Canada so far back as 1713. They are thought by some to be more curious than pretty. Be that as it may, there is something both curious and pretty about them; their beautiful leathery Ivy-like foliage has an appearance different to all other plants, while their half-hidden curious flowers may easily be unnoticed by the casual observer. They are useful plants for the purpose named above and for damp rockeries, and being evergreen makes them more desirable still. From North America we have *A. arifolium* and *A. grandifolium*. From Virginia we have *A. virginica*. *Asarum europæum*, which our figure represents, we call our own, and it only requires to be seen in its native home to be admired. It is said to possess powerful medicinal properties, used in cases of sickness as an emetic.

The plants are easily cultivated, and when once established require to be left alone. Loam, peat, and leaf mould afford them a suitable medium to develop themselves in. I have not tried them, but I have an impression they would prove useful plants for edgings in damp shady places. They are increased by division almost at any time, but spring is the best time when growth has commenced. I have seen them quite at home in peat beds among other peat-loving plants in partial shade. If we had a variegated form of this plant I am inclined to think it would be an acquisition to our numerous hardy plants that are now taking the proper places from which they have so long been excluded.—N.

### ENDIVE.

ENDIVE is one of the most important of salad vegetables, and a supply of it is provided for use during the winter months in all well-managed gardens. It is a very old vegetable, supposed to be a native of China and Japan, and was introduced into Europe in the early part of the sixteenth cen-

tury. It is, however, so thoroughly established in this country as to be considered by many an indigenous plant. The Chicory, *Cichorium intybus*, is commonly known as the wild Endive, and undoubtedly is a wild plant in many parts of England; but this is a perennial plant, the common salad Endive, *Cichorium endivia*, being an annual.

There are two distinct varieties of Endive—the broad-leaved or Batavian, and the curled Endive, and of both these there are many sub-varieties. An excellent form of the broad-leaved is Fraser's or somebody's Round-leaved. This has very broad midribs, which when blanched are of ivory whiteness, and possess an agreeable nutty flavour. Endive is one of the most useful of winter salad vegetables, growing freely, being tolerably hardy, and blanching quickly. The green curled varieties are very attractive in appearance, and "set off"

to great advantage a basket of salads for exhibition purposes. Both kinds are highly worthy of culture, the curled varieties for appearance and also possessing good flavour, the broad-leaved for everyday usefulness and high edible quality.

For producing a full supply throughout the autumn and winter months, about three sowings made at intervals in July, or two sowings in July and one in August, are all that are really necessary. If ground is vacant it is an excellent plan to sow the seed very thinly in drills about 18 inches apart, thinning-out the plants immediately they are large enough to be handled. The plants also may be raised in beds and transplanted; but it is highly important that they are not grown thickly in the seed beds, as the plants are neither so stout nor so hardy as when grown thinly throughout their whole course. The latest July or early August sowing is generally the most useful, this crop re-

quiring protective care, and it will yield produce throughout the winter. At the approach of frost the plants may be transferred to spare frames or frost-proof sheds, and from thence, as required for use, into warm and darkened places as Mushroom houses, where blanching is perfectly effected. Before very severe weather many plants are blanched in the garden by covering them with pots, saucers, or tiles, the plants being covered when the foliage is quite dry. Blanching is also perfectly effected by completely burying the plants in dry soil. I have frequently buried them, roots uppermost, on the south side of rows of Celery, and have dug out most perfect Endive throughout the month of January. Some of the plants may decay entirely, but many will have their hearts preserved, the quality of which being very crisp and sweet. It is of the greatest importance that they are perfectly dry when buried, and also perfectly uninjured by frost, or decay of the plants will be certain.

Salads are so generally esteemed in winter as well as summer, that good breadths of Endive must not be neglected, therefore it is that I draw attention to this indispensable salad vege-



Fig. 5.—*Asarum europæum*.

table at the time when seed should be procured and sown.—  
R. FISHER'S PUPIL.

## WIMBLEDON HORTICULTURAL SHOW.

WIMBLEDON and the district round about with good gardeners—men who have taken active steps to advance the work in which they are engaged. Besides the gardeners there are many others—employers of gardeners, &c.—who are desirous of fostering a taste for horticultural pursuits, seeking to perfect the higher branches of the art and endeavouring to inculcate a love for the cultivation of flowers, fruit, and vegetables amongst amateurs and cottagers. To this end the "Royal Horticultural and Cottage Garden Society" was established—a Society having a long roll of influential patronage, a practical working committee, and active and efficient officers. Last year the Exhibition was a partial failure owing to extreme wet weather on the show days; this year witnessed the other extreme—a cloudless sky and tropical sun, preventing, it is to be feared, many visitors from attending the Exhibition, for cases of sunstroke occurring on the adjoining common where our volunteer army are encamped could not have otherwise than a deterring effect on the minds of several dwellers in the district, who thought it prudent to remain "in the cool." Still the Exhibition was well patronised, and was spoken of by visitors as the best that has been held at Wimbledon.

The tents were pitched by permission of E. Halton, Esq., in the grounds of Lauriston House, the lawn, &c., being also kindly open to all visitors. Lauriston House is an old structure once occupied by Wilberforce the celebrated philanthropist, and the Scotch Fir is shown which he is reputed to have planted. The lawn contains many fine deciduous trees and Conifers, and the beds of Geraniums, &c., are extremely gay, the best we have this year seen, and the entire garden is evidently managed by an able and industrious man in Mr. Chandler.

In support of the Society special prizes were offered by Lady Peck; the Misses Reeves, Wothays; F. B. Thomas, Esq., East Hill House; R. F. Dunbar, Esq.; and Messrs. Dick Radclyffe and Co. In the cottagers' division several "specials" were also provided by ladies and gentlemen of the district. As contributing to the value and attractiveness of the Exhibition, choice and extensive groups of plants were arranged by Messrs. James Veitch & Sons, the Royal Exotic Nursery, Chelsea; Messrs. Jackson & Sons, Kingston-on-Thames; Messrs. Rolleston and Sons, Tooting; and Mr. Kinghorn, the Nurseries, East Sheen. Messrs. Dick Radclyffe & Co. also exhibited attractive cases of Ferns, &c. In the several classes there was good competition. Mr. Lyne, gardener to A. Schlusser, Esq., Belvidere, Wimbledon; Mr. Jordan, gardener to J. Boustead, Esq., Cannizzero House; Mr. Bentley, gardener to Sir T. Gabriel, Bart., Edgecumbe Hall; Mr. Smith, gardener to G. C. Joad, Esq., Oakfield; Mr. Roser, gardener to T. Shaw, Esq., Inner Park Road; Mr. Stratton, gardener to Miss Forbes, &c., were amongst the principal exhibitors. The cottagers' classes were admirably filled, and the numerous dishes of fruit and vegetables, also of cut flowers, window plants, and boxes were in the highest degree creditable to the exhibitors, and encouraging to the promoters of the Exhibition.

We cannot do more than note the general character of the display, enumerating a few of the prominent exhibits. The principal centre of attraction was the marquee in which the large plants were arranged. At one end was the collection of Messrs. Veitch, including Roses in pots, also boxes of cut blooms; and at the other the excellent group of Messrs. Jackson and Sons. The most striking plants on the central stage were the Caladiums from Mr. Jordan. These were truly magnificent plants, and which would show to advantage at the best metropolitan exhibitions; indeed, it is a question if plants equal to them have been exhibited in London. They vary from 4 to 6 feet in diameter, every leaf being in perfect health and colour, and skilfully tied, the plants being firm and symmetrical, yet not severely formal. The sorts are Meyerbeer; Excellent, an improvement on Chantini; Belleymei, Prince Albert Edward, Triomphe de l'Exposition, brighter than Bicolor splendens; and Duc Adolphe de Nassau. An idea of the vigour of these plants may be imagined when we state that the corms exceed a foot in diameter. The plants are in 12-inch pots, which are, however, partly hidden by the exuberant foliage. Mr. Stratton, Mr. Cole, Mr. Law, and Mr. Lyne also exhibited well-grown and highly-coloured plants. Such plants as Mr. Jordan's are worth more reward than the mere 15s. prize, and the Judges should have recorded them some special token of recognition.

Next in point of attraction were the Zonal Pelargoniums from Mr. Roser and Mr. Lyne. Mr. Roser's plants in 6-inch pots were admirable examples of culture, the foliage and trusses being alike in great vigour and perfection. Corsair and Richard Dean were especially brilliant amongst the scarlets, and Dr. Tate and Mrs. Turner were the best of the pink varieties. The same exhibitors and Mr. Law staged capital plants in 8-inch pots, also good collections of double varieties. Ferns were well

exhibited by Mr. Jordan, Mr. Bentley, Mr. Chapman, gardener to P. Maccabe, Esq.; and Mr. Turner, gardener to W. T. Pritchard, Esq. Mr. Jordan had a splendid plant of *Adiantum concinnum latum*, good *Gymnogrammas*, a *Neottopteris*, and a fine *Davallia Mooreana*. Fuchsias were numerous, and were characterised by size rather than quality; still many good plants were staged by Mr. Stratton, Mr. Lyne, and Mr. Law. Gloxinias were very good from Mr. Lyne and Mr. Curtis, gardener to J. Barlow, Esq. Achimenes were also very fine from Mr. Jordan, and good from Mr. Lyne and Mr. Turner. The best stove and greenhouse plants came from Mr. Jordan, Mr. Moorman, gardener to the Misses Christy, and Mr. Bentley; Mr. Chapman, Mr. Law, and Mr. Jordan also exhibiting well in the miscellaneous collections, *Begonia Vesuvius* from the last-named cultivator being extremely effective. For the best specimen flowering plant Mr. Jordan had the place of honour with a good *Clerodendron Balfourii*, Mr. Smith occupying the same position with a capital example of *Rhaphis flabelliformis* in the class for specimen foliage plants. Very good *Lycopodiums* came from Mr. Turner, Mr. Bentley, and Mr. Cooling.

Table plants were admirably exhibited. For twelve plants in pairs Mr. Jordan was placed first, Mr. Lyne second, and Mr. Bentley third. For six plants the prizes went respectively to Mr. Smith, Mr. Law, and Mr. Moorman. The *Crotons* and *Dracenas* were in admirable health and colour. These collections were highly creditable to the cultivators, most of the plants being superior, but a few—just a few—would have been as well left at home.

A class was provided for eighteen plants in 8-inch pots, which brought out six competitors, the collections wholly occupying a small tent. Mr. Smith was well placed first with plants of high quality and tastefully arranged. This group included a capital *Aralia Veitchii*, *Cocos Weddelliana*, a very good *Paullinia thalictrifolia*, *Crotons*, *Dracenas*, a *Saccolabium*, *Anthurium*, and *Cypripedium*. Mr. Lyne was a good second with larger plants, and Mr. Bentley third. Classes of this character are steps in the right direction, as opening a way for exhibitors who have neither large plants nor large houses, but who have nevertheless worthy specimens of culture which they can arrange with taste. It becomes a question whether it is not preferable to apportion a convenient amount of space and allow each exhibitor to occupy it with any number of plants he likes, awarding the prizes to the most healthy—not necessarily the largest—plants, and their most tasteful disposition. Such a plan would bring out fresh ideas in grouping and be attractive and instructive, and would open a way also for securing the largest number of competitors. According to the ordinary framing of schedules many gardeners are debarred from showing because they have not the stipulated number of plants of a uniform size, but they could occupy 30, 40, or 50 square feet of space in a creditable and attractive manner. Some of the groups at Wimbledon were not well arranged, and "education" in the artistic grouping of plants is generally needed. Semicircular groups of plants along both sides of a tent, as was the case at Richmond, have a beautiful effect, and the idea is worthy of being carried out more generally at local shows.

Roses were not extensively exhibited. For twenty-four blooms Mr. Moorman, Mr. Fanning, Roehampton, and Rev. J. M. Brackenbury, Wimbledon, were placed in the order named for good collections; and for twelve blooms Mr. Scott, Pelham Road, staged a collection of high quality. Bouquets were good, also "button-holes," especially from Mrs. Lyne, Miss Oliver, and Mrs. Jordan. A Rosebud, white Jasmine, Stephanotis, and Maidenhair Fern were the prevailing associations.

Stands of cut flowers were very attractive, especially one composed of "annuals" from Mrs. Jordan; but *Ageratums* are not annuals, and Mrs. Jordan was lucky in not having been disqualified. There were dozens of "soup plates" arranged with flowers and fruit which were very attractive; but for Lady Peck's prizes for cut flowers of hardy perennials the exhibits were poor, and very few of the flowers were named.

Fruit was limited in quantity and not superior in quality. There was one miserable Pine, most of the "Black" Hamburg Grapes were brown, and the white Grapes were unripe. The prizes were rightly awarded to the smallest bunches as being fairly well finished. For black Grapes Mr. Tucker, gardener to Mrs. Jones, Mr. Lee, gardener to G. Turner, Esq., Oaklands, and Mr. Bentley were successful; and for white Grapes Mr. Barker, gardener to J. Murray, Esq., was first with Frontignans, Mr. Lee being second with Muscats, and Mr. Ansell third with Foster's White Seedling. For Melons Rev. J. M. Brackenbury was first with Golden Perfection. Strawberries, Currants, Gooseberries, &c., were of fairly good quality.

Vegetables were freely exhibited, but as a rule they were too large, and deficient in quality and high finish. For a collection Mr. Lyne, Mr. Jordan, and Rev. J. M. Brackenbury were placed as named. Cucumbers were too old and large, and the prize was given to the largest and oldest. The best brace for table quality came from Mr. Ansell, and were not noticed. The cottagers exhibited largely, and worthily won the several prizes.

The Exhibition was a successful one, and Mr. Appleby, the Secretary, superintended with his known courtesy and activity, and was well supported by several members of the Committee. Major-General Poulton ably presided at the luncheon on the first day of the Show. He is an active patron of the Society, and by his and other influential aid it can hardly fail to prosper. The Exhibition closed on the 13th inst.

## ROYAL HORTICULTURAL SOCIETY.

JULY 19TH AND 20TH.

THE Exhibition which is now being held at South Kensington, and which closes this (Thursday) evening, is the last of the metropolitan summer exhibitions. The schedule was a remarkably modest one, including but nine classes for plants, four for Carnations and Picotees, and fourteen for Roses. Even so far as regards the latter flower there was no pretence of making a "great Rose Show," prizes only being offered for twenty-four, twelve, and sixes; a wise decision on two grounds—the lateness of the season, and the great opportunities that have been provided (and responded to) in other places during the legitimate Rose season. But as supplementary to this limited provision of classes there was valuable subjunctive aid afforded by the competition for the important special prizes which were offered by the Pelargonium Society, by Messrs. Veitch & Sons for fruit, and by Messrs. Carter & Co., Sutton & Sons, Hurst & Sons, and Mr. Monro for vegetables. The Pelargonium Society offered upwards of £60 for competition in twelve classes, Messrs. Veitch and Sons upwards of £100 in eight classes, and the vegetable prizes were extremely liberal. Besides these additions to the Society's prizes the valuable volunteer collections of plants from the leading nurserymen were arranged in the large marquee with the same effect which these plants always produce, and which contribute so powerfully to the success and attractiveness of an exhibition. Thus is the position of this old Society recognised in being rallied round and supported as the accepted head and centre of the horticultural craft in Britain. Let us now look at the results of these combined efforts. In the aggregate the Show must be described as one of the best which have been arranged in London for a very long time. The fruit for Messrs. Veitch's prizes make a noble display, occupying about 100 feet-length of table, and the vegetables are extensively exhibited; the Peas are in wonderful excellence, and other vegetables are highly superior—thanks to the enterprise of the firms named and skilful cultivation.

Extensive and attractive miscellaneous groups of plants are arranged in the large tent, and the boxes of cut Roses arranged in front of them, and especially the cut blooms of Carnations and Picotees, produce an excellent effect. Mr. Turner, Slough, set up groups of specimen Ivies extremely ornamental, and Palms. These are fringed with table plants and Roses—a most extensive and admirable group. Messrs. Veitch & Sons occupy the centre of the tent effectively as they always do, the plants being composed of Palms, Yuccas, Lilioms, Nepenthes, &c., fringed with Orchids, Gloxinias, and Ferns. Messrs. Jackson & Sons, Kingston, and Mr. B. S. Williams, Holloway, arranged capital collections of stove and greenhouse plants, the Heaths, Allamandas, Statice, Orchids, &c., being highly ornamental. Mr. Wills arranged a highly attractive collection, consisting of very tall green Dracenas, Palms, and Tree Ferns, the base being covered with Lycopodium, in which Roses, Water Lilies, &c., are artistically disposed. He also exhibits golden Caladiums and other new and choice plants. Messrs. Osborn & Sons, Fulham, sent a group composed of fine-foliaged plants in which a splendid specimen of *Davallia Mooreana* is conspicuous. Mr. Wimsett, Ashburnham Park Nursery, arranged a similar group; and Messrs. Lane and Son specimen Ivies. Messrs. Rollisson & Sons sent a very ornamental collection of plants. Mr. Aldous, South Kensington, arranged a collection in which Hydrangeas and Kalosanthes are very effective. Mr. Laing staged Palms, &c., with handsome Bicolor Pelargoniums; and Messrs. E. G. Henderson and Sons exhibit new double and other Pelargoniums. Messrs. J. & C. Lee, Hammersmith, arranged a large and ornamental collection of fine-foliaged plants and Lilioms; and Mr. Burley, Brentwood, large Palms, Phormiums, &c.

Messrs. Veitch & Sons sent a most noteworthy collection of Figs and Peaches in pots, the trees being remarkably clean and healthy, and heavily laden with fruit. Fruit trees also come from the Society's garden.

Glancing briefly at the classes we note that for six Fuchsias (amateurs) Mr. Weston, gardener to D. Martineau, Esq., Clapham Park, is first with healthy and not too formal pyramids 4 to 5 feet in height; Mr. Lambert, gardener to H. W. Segelcke, Esq., Dulwich, being second. For twenty-four Fuchsias in not less than twelve kinds, in pots not exceeding 8 inches in diameter, Mr. Lambert is first for well-flowered plants, Mr. Weston having the second place. Mr. Pestridge exhibits in the nurserymen's class. The trade growers, however, seldom devote their space to specimen Fuchsias.

For twelve Lilioms in pots, in not fewer than four kinds (open), Mr. Turner, Slough, has the first prize with *L. auratum*, *L. lancifolium roseum*, *L. Fortunei*, *L. Humboldtii*, and *L. eximium*. *L. auratum virginalis* in this collection is very chaste and effective. For a collection of twenty-four varieties of succulent plants suitable for bedding purposes in pans 12 inches in diameter Mr. Dean, Ealing, is the only exhibitor, and is awarded the first prize.

[Considering the recent tropical weather there is an admirable display of Roses. The prizes will be found in the advertised list of awards, and the collections will be noticed next week.]

**CARNATIONS AND PICOTEES.**—Of these "D. Deal," remarks that it was pleasant to see the goodly number of exhibits in this class, but at the same time it was small in comparison to what the merits of the flowers, their extreme beauty and fragrance, deserved. It was in a great measure owing to the exertions of Mr. E. S. Dodwell that this result was gained, and that the pleasure of meeting such northern growers as Messrs. F. D. Horner, Rudd, Bowers, Simonite, and Lord was given to those interested in them in the south, and it was pleasant to have an opportunity of exchanging ideas on a subject on which we all loved to talk. In the open class two excellent stands, coming close to one another, were exhibited by Mr. Charles Turner and Mr. Douglas, the prizes going in the order named. Mr. Turner's flowers were *Flora's Garland*, R.F., an old variety rarely ever seen; *Mrs. Holland*, R.F.; *James Taylor*, very beautiful; *Guardman*, rather crowded; *Florence Nightingale*, *Lord Ranelife*, *Lord Clifton*, *Mars*, *Ajax*, and *Clipper*. Mr. Douglas had Mr. Hextall, Earl of Wilton, Isaac Wilkinson, very good; *Rose of Stapleford*, fine; *Sportsman*, *Lord Ranelife*, *Earl of Stamford*, *Rifeman*, *James Merryweather*, *Dreadnought*, *Superb*, and *Lord Lewisham*.

In the open class for Picotees the same results took place. Mr. Turner's flowers were *Rival Purple*, splashy; *Miss Foord*, *Miss Wood*, *Princess of Wales*, R.F., good; *Mrs. Allcroft*, R.F., good; *Cyathia*, rough; *Mrs. Niven*, good; *Mrs. Sumners*, R.F.; *Mr. Gibbons*, white, rather flushed; *Ethel*, very lovely, R.F.; and *Miss Small*. Mr. Douglas had *Mrs. Fordham*, too full and confused; *Norfolk Beauty*, good; *Mrs. Keynes*, J. B. Bryant, ex. ex.; *Juliana*, *Mrs. Allcroft*, *Ethel*, *Picco*, *Ganymede*, and *Princess of Wales*. The third prize went to Mr. Birch.

In the amateurs' class Mr. Dodwell was first in Carnations and also in Picotees, Mr. Douglas being second in both cases. Mr. Dodwell's Carnations were *John Keet*, *Squire Meynell*, *Sir J. Paxton*, *Mrs. Dodwell*, *Falconbridge*, *James Merryweather*, *Admiral Curzon*, *E. S. Dodwell*, *John Bailly*, *Lord Raglan*, *Premier*, and *Eccentric Jack*. His Picotees were *Princess of Wales*, *Miss Lee*, *Rev. F. D. Horner*, *Juliana*, *Mary*, *Mrs. Simmons*, *Edith Dombain*, *J. B. Bryant*, *John Smith*, *Alice*, *Minnie*, and *Alliance*. Mr. Douglas's flowers were Mr. Hextall, Isaac Wilkinson, Lord Ranelife, *Rose of Stapleford*, *Rifeman*, *Earl of Stamford*, *James Merryweather*, *Mr. Cooper*, *True Briton*, *Annihilator*, *Marshal Ney*, and *Lord Lewisham*; while in Picotees he had *Mrs. Fordham*, *J. B. Bryant*, *Mrs. Keynes*, *Mary*, *Princess of Wales*, *Mrs. Hornby*, *Picco*, *Mrs. Allcroft*, *Admiral*, *Obadiah*, and *Norfolk Beauty*.

The fact that this has to be sent to press in about an hour after the prizes are awarded must make it a mere barren record of names, and one only has to express regret that so little is done for this very beautiful class of plants.

**PELARGONIUM SHOW.**—The plants are grouped in the large marquee. Many of them had received injury in transit, and the show cannot be described as either extensive or successful. The most varied and extensive collection of plants came from the Society's garden at Chiswick. The Judges withheld several prizes—a discretion wisely exercised, for many of the collections are anything but meritorious.

For twelve plants ("Florists' class"), in pots not exceeding 8 inches in diameter, prizes of £8 and £5 were offered. Mr. Catlin, gardener to Mrs. Lermite, Finchley, is placed first for healthy semi-globular plants about 2 feet in diameter, the trusses being numerous and fine. For four plants in 6-inch pots remarkable for finely-formed flowers irrespective of colour, Mr. Catlin has again the first place with *Heather Bell*, *Amazon*, *Lesbia*, and *Solon*, all raised by Dr. Denny; Mr. Evans, nurseryman, Penge, being second with *Rienzi* (Dr. Denny), *President Thiers*, *Mons. Lesseps* (Lemoine), and *Ace* (F. & A. Smith).

For twelve plants ("decorative class") in 8-inch pots the prizes were £8 and £5. Mr. Catlin is placed first for plants about 2 feet in diameter, healthy, and with numerous and fine trusses. A second prize was not given. Mr. Brise, Finchley, having the third place for rather starved specimens; Mr. Evans being placed fourth.

For thirty plants in 6-inch pots ("irrespective of class") the prizes were £6, £4, and £2. Mr. Catlin has the first place for healthy plants with fine trusses, but the plants were drawn, rendering free staking necessary.

For six double-flowering varieties in 6-inch pots, Mr. Evans, Penge, is awarded the second prize, and Mr. Catlin third, for plants of no particular merit.



For one hybrid Pelargonium of distinct and ornamental character, a "hybrid" Cape Pelargonium, Pixie, is exhibited by Mr. Pearson, Chilwell, a very attractive plant having no appearance of a hybrid; neither is Happy Thought exhibited by Mr. Evans, a hybrid, and the prizes were withheld. The other exhibits in these classes do not call for notice, and we do not hesitate to say that the Pelargoniums as a whole were not worthy of the prizes which were offered for them.

**MESSESS. VEITCH'S PRIZES.**—In the class for a collection of fruit in ten distinct dishes, first honours are awarded to Mr. Coleman, gardener to Earl Somers, Eastnor Castle, who exhibits Black Hamburg Grapes of the true Eastnor type, very fine but not perfectly ripe Muscats, a splendid Golden Gem Melon, and equally superior Bellegarde Peaches, Black Eagle Cherries, Frogmore Late Pine Strawberries, Governor Wood Cherries, Nectarines, Figs, and a Pine Apple—an admirable collection and deserving of its place. Mr. Sage, gardener to Earl Brownlow, is placed second with a fine collection, noticeable for a well ripened cluster of the Banana, Musa Cavendishii, highly superior Figs, and McLaughlin's Plums, good Grapes, Cherries, Peaches, Nectarines, and Strawberries. Mr. Tillyard, gardener to the Countess of Yarborough, Brocklesby Park, Brigg, is placed third; the Grosse Mignonne Peaches being very fine, and the rest good, but the Grapes not fully ripe.

In the next class for six dishes Mr. Bannerman, gardener to Lord Bagot, Blithfield, Rugeley, is placed first for a splendid dish of Black Hamburg and Muscat Grapes, Trentham Hybrid Melon, a Smooth Cayenne Pine, Royal George Peaches, and Elruge Nectarines. Mr. Cox, gardener to Earl Beauchamp, being second with a Prickly Cayenne Pine, a capital Golden Gem Melon, Royal George Peaches, Elruge Nectarines, very good Muscats, and fair Black Hamburg Grapes. The third prize is awarded to Mr. Wallis, gardener to E. M. Mundy, Esq., Shipley Hall, Derby, for very similar and very good dishes; an extra prize being awarded to Mr. Rutland, gardener to the Duke of Richmond, Goodwood. In this collection are very large but not highly finished Grapes. Five others competed.

For three bunches of Muscat of Alexandria Grapes the first prize is worthily awarded to Mr. Bannerman for splendid bunches, well filled and highly finished; Mr. Woodbridge, gardener to the Duke of Northumberland, being second also for capital fruit; Mr. Wallis being third for bunches and berries perhaps still better, but not quite so ripe as the Syon House Grapes. There are eleven competitors. In the class for three bunches of Black Hamburgs thirteen compete, the bunches being generally large, but many berries are deficient in colour. The first prize is awarded to Mr. Loudon, gardener to T. Barnes, Esq., The Quinta, Salop, for very large, well shouldered, and symmetrical bunches; the berries being not proportionately large, but well coloured. The weight of the bunches averages about 3 lbs. each. Mr. Somers is placed second for good bunches of remarkably fine berries; the third prize going to Mr. T. Coomber, gardener to J. A. Rolls, Esq., Hendre Park, Monmouth, for exceedingly clean fruit but small. In the class for three bunches of any kind except Muscat of Alexandria and Black Hamburg Mr. Bagot is first for remarkably compact and well-finished bunches of Black Alicante, Mr. Loudon being second with two bunches of Golden Champion, well filled but the berries somewhat irregular, and one Madresfield Court better than either, still not perfectly coloured, yet they beat three fine bunches of the Duke of Buccleuch near them from Mr. Wildsmith, but not ripe; the third prize going to Mr. Sage for large bunches of Buckland Sweetwater.

Full bunches and fine berries of the Duke of Buccleuch are exhibited in the miscellaneous class by Messrs. Lane & Son, Great Berkhamstead, but they are not quite ripe. As exhibited this is certainly a very promising Grape. A collection of fruit from Mr. Jones, Frogmore, contains two Cayenne Pines, weighing 18 lbs. 14 ozs.; Goliath and Victoria Plums, very fine; Buckingham Mignonne Peaches, a Royal Ascot Melon, Cherries, and poor Apricots. This collection is not in competition. Messrs. Lane & Sons exhibit Vines in pots carrying heavy crops of fruit.

A fine collection of Pines is exhibited, over forty in number. The first prize is taken by Mr. G. Wyness, gardener to G. Keith, Esq., Usan House, Montrose, N.B., with three splendid fruit of Ripley Queen; second Mr. W. Chamberlain, gardener to H. Thompson, Esq., Bushey, Herts, for three fruit of Queens; third Mr. G. Tillyard, for the same variety. Latterly Pines have not been well exhibited, but the collection here staged contains many excellent fruit.

For six Peaches of one kind the first prize is taken by Mr. G. Fennell, gardener to E. Cazalet, Esq., Fairlawn Park, Tonbridge, for fine well-coloured fruit of Noblesse; second Mr. J. Hill, gardener, The Poles, Ware, Herts, for Barrington, which is well coloured; third Mr. W. Coleman, gardener to Earl Somers, Eastnor Castle, for well-coloured fruit of Bellegarde. An extra prize is awarded to Mr. Tillyard, gardener to the Countess of Yarborough, Brocklesby Park, Lincolnshire, for fine specimens of Grosse Mignonne. Sixteen dishes are put

up. Among Nectarines there are some dishes of fine and highly-coloured fruit shown. The first prize going to Mr. A. Jamieson, gardener to the Earl of Crawford, Haigh Hall, Wigan, for Elruge; second to Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood Lodge, Nottingham, for the same variety; third Mr. J. Hill, for Murrey Nectarine. The Peaches and Nectarines are remarkably well exhibited.

**VEGETABLES.**—These are numerous and excellent—by far the finest show that has been seen this year, occupying a length of table of 200 feet.

**MESSESS. CARTER & CO.'S PRIZES.**—For the best twelve dishes of vegetables, comprising Onions, Carrots, Turnips, Tomatoes, Cauliflowers, Celery, Commander-in-Chief Peas, Pedigree Windsor Beans, Dwarf Kidney Beans, and Porter's Excelsior Potatoes, sixteen collections are staged. The first prize of £10 10s. goes to Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey; second to Mr. W. G. Pragnell, gardener to W. G. Digby, Esq., Sherborne Castle, Dorset; third to Mr. V. Arker, Cheltenham; fourth to Mr. Cross, gardener to J. Hough, Esq., Sidmouth, Devon; fifth to Mr. J. Bain, The Gardens, Downton Hall, Ludlow. For the best brace of Cucumbers Mr. J. Lockie, gardener to Lord Fitzgerald, Oakley Court, Windsor, won with Lockie's Masterpiece; Mr. R. Philips, being second with Tender and True; third going to Mr. Neighbour, gardener to G. Wythes, Esq., Bickley Court, Kent. Seventeen brace being exhibited. Melons: the best brace is contributed by Mr. T. Coomber, gardener to J. A. Rolls, Esq., Hendre Park, Monmouth, with Bloxholm Hall and Read's Scarlet-flesh; second Mr. J. Neighbour, with Bloxholm Hall and Hero of Bath; third Mr. O. Goldsmith, gardener to Sir W. Farquhar, Bart.

**MESSESS. SUTTON AND SONS' PRIZES.**—For six dishes of Peas, the first prize, a silver medal and £2, is won by Mr. R. Gilbert, gardener to the Marquis of Exeter, Burghley, with fine examples of Duke of Edinburgh, Duchess of Edinburgh, Commander-in-Chief, G. F. Wilson, Dr. McLean, and Laxton's Marvel. Mr. W. G. Pragnell, Sherborne Castle, being second with good dishes of Standard, Duchess of Edinburgh, &c. There are eight collections. For a collection of vegetables, twelve distinct kinds, the first prize, a gold medal and £5, is awarded to Mr. W. G. Pragnell, gardener to D. W. Digby, Esq., who has capital dishes of Early Nantes Carrot, Giant White Tripoli Onion, Sandringham White Celery, Porter's Excelsior Potatoes, Canadian Wonder Beans, Giant Emerald Marrow Pea, Tender and True Cucumber, &c. Mr. R. Gilbert, gardener to the Marquis of Exeter, is second, winning the silver medal; and Mr. W. Cox, gardener to Earl Beauchamp, Madresfield Court, securing the bronze medal, both contributing fine collections. There are twelve exhibitors. For a collection of Cucumbers and Melons the gold medal and £3 are awarded to Mr. W. Cox for Hero of Bath, Prince's Favourite, and Golden Gem Melons; Madresfield Prolific, and Duke of Connaught Cucumbers. Mr. W. G. Pragnell being second, having the silver medal, and Mr. R. Gilbert third with excellent examples. There are five competitors.

**MESSESS. HURST & SONS' PRIZES.**—For six dishes of Mr. Laxton's Peas the first prize of £4 is won by Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey, who exhibits dishes of The Shah, Standard, Superlative, Laxton's No. 1, Filbasket, and Supplanter. The remaining prizes are taken by Mr. R. Gilbert and Mr. T. Bailey, The Gardens, Shardeloes, Amersham, in the order named. There are eleven exhibitors.

The prizes offered by Mr. Munro for Duke of Edinburgh Cucumber are awarded to Mr. R. Phillip, gardener to Capt. Jackson, The Deodars, Gravesend; second prize going to Mr. E. Bennett, Barnet; third to Mr. Cross, gardener to J. Hough, Esq., Peak House, Sidmouth. Eleven exhibitors.

**MESSESS. JAMES CARTER & CO.** exhibit seventy varieties of Peas which had been grown at their trial grounds, and also ripe seed of each variety, and a wonderful collection of Giant White Tripoli Onions, the bulbs averaging 20 inches in circumference, and with the size fine quality. Mr. Ormsen exhibits his celebrated upright tubular boiler, and Messrs. Dick Radclyffe & Co. attractive cases of plants. The Exhibition is highly worthy of inspection.

**FRUIT COMMITTEE.**—Henry Webb, Esq., in the chair. Mr. Brown, gardener to Hon. Mrs. Bathurst, Hyams, sent a dish of well-grown Physalis edulis, or Cape Gooseberry, to which a letter of thanks was awarded. A fine dish of Beurré d'Amanlis Pear was sent by J. S. Virtue, Esq., of Oatlands Park, grown by Mr. Cornhill, gardener, to which a cultural commendation was awarded. The same gentleman also exhibited a dish of Apples under the name of Gooseberry Pippin, but which proved to be the Winter Greening. Mr. J. Cox of Redleaf Gardens sent a dish of Redleaf Russet but the fruit was not fresh. A seedling Melon was received from Mr. Sinclair, Easthampstead Park, Wokingham. It is of large size, oval, and with a pale red flesh, but the flavour was inferior. The Rev. A. D. Stackpoole, Court, Chelmsford, sent an Apple of medium size, deep yellow, and with a tinge of red on one side. It was referred to the Director



to report upon at the next meeting. Mr. Wildsmith, gardener to Viscount Eversley, Heckfield, sent a seedling Melon called Heckfield Hybrid, which was unripe, and the Committee could not decide upon its merits. Mr. Cox, gardener to Lord Beauchamp, Madresfield Court, sent a seedling Melon called Hardy Prolific, scarlet flesh, which was not of good flavour.

Messrs. Lane & Son of Berkhamstead sent a dish of Ferdinand de Lesseps Grape of excellent flavour, but not quite ripe. A letter of thanks was awarded. Mr. R. Gilbert of Burghley Gardens sent a bunch of Abercainey Seedling Grape. Its bunch is like that of a small Black Hamburgh, and the berries are small, black, and oval; the flavour is sweet and vinous, but it is so small the Committee did not consider it an improvement on others already in cultivation. The Hon. and Rev. J. T. Boscawen sent a dish of Dr. Hogg Grape, the flavour of which was delicious. A letter of thanks was awarded to Mr. Boscawen. Mr. D. Mills, Turnham Green, sent branches of Red Currants. Mr. R. Gilbert sent a dish of very fine Tomatoes called Jackson's, said to have been selected from Hathaway's. A cultural commendation was awarded.

**FLORAL COMMITTEE.**—W. B. Kellock, Esq., in the chair. A first-class certificate was awarded to T. Laxton, Esq., Stamford, for Rose Mrs. Laxton, a variety in the way of Marie Baumann but more cupped. A second-class certificate was given to Mr. Perkins, Leamington, for a Picotee, a self, full, and of a buff or straw colour, fairly smooth and full.

Messrs. Veitch & Sons received a first-class certificate for Utricularia Endressii, and also for Begonia Viscountess Doneraile, a variety with fine flowers of a rich crimson-scarlet colour. A vote of thanks for a finely bloomed plant of Vanda Lowii was given to H. G. Elliott, Esq., The Crescent, Downs Park Road, Clapton. A first-class certificate was given to J. H. Hawley, Esq., Ranelagh Gardens, Leamington, for Pelargonium Leamington Lassie, a bright pink semi-double flower of vigorous habit and large truss.

A most distinct and handsome Fern—a gold-spangled Gymnogramma—was exhibited by Mr. W. Brown, gardener to Mrs. Alston, Elmdon Hall, near Birmingham, for which he received a first-class certificate. A vote of thanks was given to G. F. Wilson, Esq., for out blooms of various Lilies, including L. californicum, L. longiflorum, L. eximium, the Martagon Lily, &c. Mr. Charles Noble exhibited Thujopsis borealis aurea, a very distinct variety, with the habit vigorous, and if the constitution should prove hardy it will be an acquisition. Messrs. Sanders and Co., seed-growers, showed a dwarf white Candytuft, which though good was not considered sufficiently distinct to receive an award.

Dr. Denny of Stoke Newington exhibited two baskets of Pelargoniums—viz., Heather Bell and Globosa major. Mrs. Edward Fox, 44, Market Street, Brighton, exhibited some very natural-looking specimens of Roses modelled in wax, and which were highly commended. They were admirably executed.

### NOTES AND GLEANINGS.

We omitted to notice that Messrs. Bell & Son of Norwich exhibited recently a stand of their new seedling hybrid Bourbon Rose CATHERINE BELL, and their seedling Tea Rose MRS. OPIE.

—THE seventh annual Exhibition of WINDOW PLANTS grown within the City was held on the 13th inst. in the gardens, Finsbury Circus. The Duchess of Teck, who was announced to distribute the prizes, arrived early in the afternoon. A splendid bouquet was presented to the Duchess by Miss Davies. The Duke of Teck, replying to some observations of the Lord Mayor, observed that the difficulties of cultivation were great, particularly in a place where bricks and stone had almost banished every vestige of vegetation. Here it was that the influence of flowers was most felt. They all knew their tendency to brighten the home and cheer the sick. The Royal Horticultural Society's silver medal was awarded to a youth named Jarvis for the best plant.

—AT the meeting of the HORTICULTURAL CLUB held on Wednesday last the following new members were admitted: Messrs. Charles W. Morriss, King's Lynn; Thomas Hanbury, Ashburton House, Croydon; Palazzo Orenzo, Mentone; Henry Ormon, King's Road, Chelsea; David Syme, Edinburgh, N.B.; Joseph Broome, Didsbury, Manchester; and David Allister, Mark Lane.

—PERSONS with horticultural tastes who visit the public gardens and grounds at Washington do not see all in that line worth their attention at the capital. Mr. Saul's nurseries and greenhouses on the Seventh Street road, just beyond the city borders, well deserve notice; and though, as a commercial place, it does not show specimens such as are found in the

Experimental and Botanic Gardens, its great collection of almost every class of plants is very interesting. Against the walls of his office and packing-house—brick and roughcast—have been trained a number of VARIETIES OF IVY; and the effect produced is at once beautiful and striking. Some are more robust growers than others; some are variegated, almost white; others of the deepest richest green; and the combination and contrast enhances the beauty of all. Most of the growth now reaches the eaves, so that the wall is almost hidden by this lovely draping. The inquiry suggests itself, Why on rural buildings to which it is so much more appropriate, enduring and beautiful than paint, this natural covering is not more frequently resorted to? and why in cities the naked walls of churches and other public and private buildings should not be thus adorned and protected?

—To the many inquirers seeking information HOW TO DYE MOSSES, GRASSES, AND FLOWERS, the following mode as adopted in Germany may be useful:—

*To Dye Moss Green.*—Boil half a pound of alum in four quarts of water, and dissolve half a pound of finely triturated mineral blue in it, and a dark green dye is the result. Or a very beautiful green dye may be made with indigo—carmine and picric acid, adding water to reduce it to the desired hue. As picric acid is rarely to be had of uniform strength the exact proportions cannot be given. The same dye may be used for Grasses.

*Black.*—Two ounces of logwood in one quart of water, quarter ounce of alum, and 3 ozs. of copperas, the whole boiled together and the moss dipped into it while hot. Or two parts of logwood and one of fleabane thoroughly boiled together, and a little green vitriol.

*Red.*—The best way to make this colour is to boil as much red aniline in rain water as will produce a pretty red. The dye should be hot when the moss is dipped.

*To Bleach and Dye Everlasting Flowers.*—*Bleaching.*—Put a number of flowers, which have previously been placed in a warm chamber to cause them to open, in a vessel containing a solution of chloride of lime, half ounce of soda, and two quarts of water. Cover the vessel and leave it as it is in a moderate temperature for four or five days. During this period the flowers first change to an orange colour, and afterwards to a bluish-white. As soon as these changes show themselves take the flowers out and pour off the fluid, and fill it up again, using this time only 1 oz. of chloride of lime and no soda. Let the flowers remain in this until quite white, subsequently drying them in a warm oven.

*Dyeing.*—*Carmin.*—Quarter loth (about two drachms) of Munich lac, quarter pint (about half drachm) ultramarine blue, dissolved in 12 loth (about 6 ozs.) of warm water. *Rose.*—Quarter quint of extract of safflower, dissolved in one quart of cold water. *Dark blue.*—One loth indigo extract in a quart of water. *Cornflower blue.*—Half loth of blue aniline, two loth spirits of wine, in one quart of water. *Violet.*—Half loth violet aniline, with the same proportions of water and spirit. *Light blue.*—Half loth Prussian blue, dissolved in a quart of water. *Dark blue.*—One loth of catechu, boiled in a quart of water. *Light green.*—Quarter loth picric acid, and quarter quint of indigo in twenty loth of alcohol. *Black.*—As given above. *Orange.*—Three loth of borax in 2 quarts of hot water, leaving the flowers to steep for some time.

The dyes for Grasses, &c., are made in the same way.

### ROSES FOR FOLIAGE.

I WISH to grow five or six Roses with handsome foliage simply to pick leaves from. What sorts would you recommend, and what is the best mode of pruning? If I had several free-growing varieties of different types I could nearly always match the leaves with the flowers, at least quite near enough for drawing-room purposes.—KITTY.

[To supply fine foliage in making up bouquets of Roses we would recommend to be grown a small hedge of the old Hybrid Bourbon Céline, which has pretty pink flowers with abundant and magnificent foliage.

As Roses suitable to grow for the same purpose we would mention Charles Lefebvre, H.P., much resembling Céline in foliage; Eugène Appert, H.P., for the darkest green foliage; Boule de Neige, H.P., with pretty wavy chocolate-tinted edges to its young foliage; François Michelon, H.P., has fine foliage of a lighter green. Climbing Devoniensis, Tea-scented, with fine dark foliage, and Rêve d'Or, Noisette, with rich abundant

foliage, are both good to grow for foliage for these families. Coupe d'Hébé, Hybrid Bourbon, has fine, fresh, plentiful foliage. All the foregoing varieties grown for this purpose will require little pruning, cutting out the old wood will nearly suffice.]

### THE BRIGHTON SUMMER SHOW.

LOVELY weather, numerous entries—the majority of which proved meritorious—a crowded company, &c., rendered this Show a perfectly successful one. It was held at the Royal Pavilion for the twenty-fourth time on Wednesday last, and remained open till the evening of Thursday. A show extending over two days may be objectionable if it is devoted solely to Roses, but when, as in this instance, it embraces plants and fruit in addition to cut flowers, and is held in so large a town as Brighton, a second day—"a people's day"—with a low rate of admission, not only affords a treat to those sons and daughters of toil with whom the expenditure of every shilling is a matter of no light importance, but is really a profitable investment from a financial point of view.

The Exhibition, filling five rooms and a large tent, was of considerable excellence both as regards the collections shown and the skilful and tasteful manner in which they were arranged. Take, for example, the Banquet Hall, in which the Roses in competition for the Ashbury cup were staged; the 648 trusses of Roses brought together in contest for this the premier prize made the centre and front of the hall gay with colour, which was agreeably relieved by magnificent groups of Palms and fine-foliaged plants at each end. In the Music Saloon, too, a pleasing effect was produced by placing table decorations and artificial flowers in the centre and front of the room, with groups of Ferns arranged along the walls. The management of the interior of the tent afforded further proof of the sound judgment and good taste of the Superintendent, Mr. E. Spary, for here all the gayest flowering plants gained an additional charm from the subdued light which the tent afforded. We will now turn our attention to the collections, beginning with the

ROSES.—Here Messrs. J. Mitchell & Sons, Piltown Nurseries, Uckfield, were placed first, winning the ten-guinea cup given by James Ashbury, Esq., M.P., with seventy-two trebles of great excellence. The most striking characteristics of their collection were the large size yet compact form of the flowers, combined with brightness of colour and an air of freshness that was very charming. Of course every individual flower was not quite first-class, but there was certainly nothing like a bad flower among them. The most notable were Souvenir du Champ de Mars, a splendid crimson variety; Paul Verdier, in capital form and condition; Marie Baumann, one bloom of this being especially fine; Madame Pulliat, a brilliant scarlet kind of fine form; Clotilde Rolland; François Michelin, very fine; Duchesse d'Aoste, a charming light pink; Marquise de Castellane, three magnificent trusses; Xavier Olibo, Madame de Ridder, Baroness Rothschild, and Alfred Colomb—a select dozen of sorts old and new, which as shown here by Messrs. Mitchell it would be difficult to match. It may be well to note here that a detailed Rose list is not contemplated in this report, and the few kinds noticed may be regarded as the cream of those exhibited. In other stands were excellent flowers of Madame Lacharme, not very large, but good both in form and colour. Antoine Ducher, Maurice Bernardin, Devienne Lamy, Alfred Colomb, was good in several stands, and notably so in one by Mr. Piper, nurseryman, Uckfield, who also had fine blooms of Paul Verdier, Richard Wallace, La Fontaine, and Mdlle. Thérèse Levet, a charming pink kind. Mr. Knight of Hailsham had excellent examples of Fisher Holmes, Duc de Rohan, and Exposition de Brie. A stand of trebles exhibited by Mr. W. Lacy, gardener to C. T. Mortimer, Esq., Wigmores Park, contained three of the finest examples of Marie Baumann I have ever seen, very large in size, close and compact in form, and bright in colour; they were certainly worthy of especial notice, but unfortunately the stand took no prize, as the other Roses in it were not so meritorious.

PLANTS.—The first prize for ten variegated and fine-foliaged plants was well won by Messrs. Balchin & Nell, nurserymen, Hassocks Gate, with a fine group very well arranged. A Chamærops, an Encephalartos, and a Latania—all fine plants, and well matched as to size—formed a central triangle, around which swept a semicircle composed of Croton variegatum in fine colour, a noble specimen; Pandanus Veitchii, Croton majesticum, Yucca aloifolia variegata, Croton Veitchii, Dracæna australis, and Croton angustifolium. There were some good plants in the second-prize group, a Dracæna Shepherdii being worthy of especial notice from the stately and striking appearance which it presented. In Fuchsias Messrs. Balchin & Nell were again first with fine plants of pyramidal form, and about 6 feet high. It was to be regretted that flowering Begonias were not better represented. The only really good specimen of this most useful class was our old favourite B. Weltoniensis. Some of the Ferns were excellent examples of skilful culture.

Mr. Meachin, gardener to E. Armstrong, Esq., and Messrs. Balchin & Nell taking the first places in two classes, the first having good plants of Asplenium nidus, Lygodium scandens, and the charming little Adiantum gracillimum; and the other a grand Woodwardia radicans, a magnificent specimen with fronds 4 or 5 feet in length and of proportionate width; Davallia pyxidata, and Cyathea medullaris. The plants in the tent consisted principally of stove and greenhouse plants, with zonal and fancy Pelargoniums. The latter were especially good, a perfect mass of bloom, reflecting much credit upon Mr. W. Miles, by whom they were exhibited. The zonals by the same grower were excellent plants in fine flower, but there was rather an unnecessary display of stakes. The most notable kinds were Kisber, a rich scarlet of fine form; Maréchal Vaillant, orange scarlet; and the bright pink Rose of Allendale. Messrs. Balchin & Nell were an excellent first with eight stove and greenhouse plants, all fine specimens, the best being a Bougainvillea glabra, 5 to 6 feet high, and nearly as much in diameter, laden with its mauve-coloured bracts; a Stephanotis, equally good; Erica Paxtoni, very fine, and a grand plant of Kalosanthes coccinea. Mr. Meachin, who took second honours, had capital examples of Vinca rosea and Allamanda Hendersoni.

DINNER-TABLE DECORATIONS.—These offered nothing new, nor was the contest a severe one, Mr. and Mrs. C. Burley of Brentwood easily taking first honours in all three classes. The leading colours were white, pink, and blue, intermingled with sprays of Grasses and Ferns. Most of the stands were of the Marsh pattern, or modifications of that elegant form. The tenacity with which exhibitors cling to one form of stand is a remarkable instance of the general tendency to run in a groove, and yet in actual practice the same set or pattern of stands is never used on consecutive nights; but, on the contrary, a change of stands, colours, and style of arrangement is required every night, no arrangement or part of an arrangement being admissible twice in the same week. Why, then, do we not find this better illustrated at our horticultural exhibitions?

Near the table decorations was an attractive display of wax-paper flowers, to which a first-class certificate was awarded. They were exhibited by Mr. Snelling of the Chain Pier Bazaar, and were of the highest order of merit. Plants of Dracænas, Caladiums, Gloxinias, and Mignonette, and flowers of Orchids, Roses, and many stove plants being copied so faithfully as to entirely deceive one.

The prizes for miscellaneous cut flowers brought together a most attractive collection. Among the most beautiful a cluster of the deep scarlet rosettes of the Pomegranate was very conspicuous; another of Desfontainia spinosa, the long, rich, scarlet tubes tipped with yellow mingled with the dark green holly-like foliage was very charming; Begonia nitida, the white flowers tinged with a delicate shade of pink was very lovely; Bougainvillea glabra, effective as it is, was never more so than in such a collection; then came Bouvardia Vreelandii with its lovely small white clustering flowers, the striking white spikes of Swainsonia grandiflora, the delicious Tuberosa, the magnificent Carnation Souvenir de la Malmaison—the white flowers slightly suffused with pink are so fine as not unfrequently to be mistaken for Roses when cut; the old but very charming Bouvardia jasminoides, the orange-coloured Izora amboynensis, and Statice profusa with dense clusters of lovely blue flowers. There is nothing very new or novel among these few select kinds, but they are some of the very best flowers in cultivation for decorative purposes.

FRUIT.—Black Grapes were well represented by many bunches of good size, capital colour, and fine large berries, both of Black Hamburg and the more choice Muscat Hamburg. Muscat of Alexandria was shown large in bunch and berry, but sadly deficient in colour, which was much better developed in some Buckland Sweetwaters. Of Strawberries the first prize fell to that excellent sort Dr. Hogg in both classes for single dishes, Sir C. Napier coming second in both instances. These with a dish of the dark-coloured Empress Eugénie shown in the collections were the only really good Strawberries in the Show, the whole of the fruit in the other dishes being so small as to be more suitable for preserving than for the dinner-table. A few Melons, Peaches, Nectarines, and a Pine or two were also exhibited, but none of them call for especial mention.—E.

### TABLE DECORATIONS AT THE AQUARIUM SHOW.

It would be a calamity if what one hears be true—that table decorations are going out, and that the upper ten especially are setting their faces against them. There are indeed indications that the thing has been overdone, and the trouble and expense connected with it has somewhat sickened people. Few persons except those who have tried it know how much is involved in it; and if the mistress of the house could delegate these things to a servant it might be very well, but not one servant in a thousand has correct ideas of taste—indeed many,

very many, ladies have odd notions on this subject—and consequently either she or some of the younger members of the family undertake it. Now when one considers what was involved in table decorations—the elaboration of detail, the mass of flowers, and even the displacement of the tables themselves—it was not to be wondered at that an *emeute* on the subject should break out, and that two or three hours for this one object was rather too much. Hence if anything can prevent this calamity it must be by maintaining a simpler but equally effective style of decoration; and this is, I conceive, what the judges at a show are bound to consider, and what was considered in the judgment at the Show at the Aquarium. When one hears the visitors exclaiming, "Well, I really don't see much in that; I wonder why it had the first prize," it is always to me a hopeful sign of the judging being correct, for the mass of visitors like to see gorgeous display, and, as the poor people say of the doctor, to get something for their money be it even a nasty black draught. With these views, and judged by the test of simplicity and effect, let me offer a few remarks on the principal exhibits on the occasion referred to.

The first prize was awarded to Mrs. Burley for a very elegant arrangement; the centre being a Palm, round the base of which were grouped some fine blooms of Cattleya and other Orchids and Fern leaves. At either end were two trumpet glasses, which to my mind would have been better had they been a trifle smaller: these were tastefully arranged with Rhodanthes, Grasses, and light airy flowers, while the climbing Fern was twisted round these. The fruit was in glass dishes, and consisted of Apricots, Figs, Peaches, and Grapes, with a Pine and Melon at either end, specimen glasses being placed among the fruit. Strong-smelling flowers had been avoided, and altogether it thoroughly deserved the position it took. Mrs. Cypher of Cheltenham took the second prize with another excellently arranged table. A modified March stand occupied the centre, having a trumpet-shaped glass at top, in which was a single bloom of the singular and beautiful *Gloriosa superba*, sprays of *Oncidium*, Grasses, &c. The base was perhaps a little too formal and required to be broken up with foliage, Ferns, &c. At either end were stands with a triple glass, in which the flowers were arranged somewhat similar to the centre one. Peaches, Nectarines, Grapes, Pine and Melon were the fruits arranged in flat glass dishes, and specimen glasses introduced amongst them. Mrs. Harris took third prize. The stands were upright glass ones with cornucopias suspended from them. Here Rhodanthe was too profusely used, the upper glass containing hardly anything else. The fourth prize fell to Mrs. Soder, whose table was decorated with three March stands, arranged with Ferns, and calling for no particular observations.

Amongst the unsuccessful ones Miss Edith Blair's deserves notice. It was very elegantly arranged but meagre, no fruit being placed upon the table except at the bottom of the central Palm. This was a grand mistake. When the fruit was taken away, which it must be if any of the guests were to partake of dessert, the table would look still more meagre; and I am persuaded it is a great mistake to mix flowers and fruit together. Messrs. Dick Radclyffe & Co. exhibited a very grand table, but unhappily too crowded for its size and the number of guests. It was highly commended by the Judges as suitable for a large table; and in some of the others were notable instances of how *not* to do it.—D., Deal.

## THE RESTING SPORES OF THE POTATO FUNGUS.

THAT a large number of animals and plants are in the habit of passing the winter months in a state of seclusion and sleep has been known from very early times. The facts regarding the curious phenomenon of hibernation are best known amongst the larger animals, where the observations are easiest made. Nothing can be more curious than the disappearance of the bear for five or six of the winter months in drifts of snow. During this period the great beast remains in a state of lethargy, and though taking no food yet remains in condition. A mechanical contrivance is provided for the intestines, and when the spring sun once more sheds its life-giving rays upon the wintry earth the bear returns to renewed activity.

There are innumerable contrivances in nature which will suggest themselves to every reader, by means of which the vitality of animals and plants is preserved during the winter months. The seed of the annual with its protective integument, the fleshy subterranean rootstock of the perennial, the egg of the insect, the spawn of the Mushroom, and the resting spores of many fungi.

Of course the smaller the seeds, the threads of spawn, and the spores are, the more difficult are they to make out. No one can now be found to deny the meaning of the egg of the bird, reptile, or insect, because these objects are visible to the

unaided eye and have been repeatedly observed. Their meaning is known to all; but the egg condition of a minute fungus like the one which causes the Potato disease is so small that it takes the higher powers of the microscope to see it; it is therefore extremely difficult (when once obtained) to watch and keep alive. In known eggs, like the eggs of the hen, the snake, and the spider, the length of time which must elapse before the young animal emerges is known; but in the egg of the Potato fungus this period, like the egg itself till quite recently, remained wholly unknown. The Potato fungus is only seen in a flourishing state for a few weeks in autumn, it then suddenly appears in our Potato fields, destroys our crops, and vanishes. Last autumn I wrote a paper for the *Journal of Horticulture*, explaining how I believed the Potato fungus carried a large number of eggs or resting spores, and produced within the tissues of the leaves and amongst the cells of the tubers. These eggs had been suspected and searched for in vain by many botanists for many years. De Bary, the famous botanist of Strasburg, writes that he has searched for these resting spores for fifteen years, and on every opportunity he says he has "searched for them in the stalks, leaves, flowers, fruit, and tubers of the Potato." The Rev. M. J. Berkeley, however, with a keen insight into the true nature of the Potato fungus, made a suggestion many years ago that the true resting spores had very probably been once seen, and even illustrated, although the author himself (Dr. Montague) did not understand their meaning. It appears that a Dr. Rayer about, or previous to, 1845 found spherical bodies in spent Potatoes, and these bodies Dr. Montague illustrated. Being new to science, and consequently nameless, Dr. Montague christened them *Artotrogus*. Mr. Berkeley subsequently said that he believed this rare *Artotrogus* to be no other than the egg state of the Potato fungus; but from 1845 till last year no one could ever again find one or the other, so that Mr. Berkeley's view was obliged to remain a mere surmise. Like De Bary and many other botanists I have long and almost hopelessly searched for the egg state of the Potato fungus. This search had invariably been without the slightest result till last July. The readers of the *Journal of Horticulture* will remember how I kept infected leaves and tubers damp, and how in the damp portions of the magma I had the great pleasure of at last seeing the long-lost *Artotrogus* growing upon the threads of the *Peronospora*. This fact confirmed the correctness of Mr. Berkeley's original views to my own mind, but the unfortunate thing about it was that I could hear of no one else repeating my experiments with the same results. During the months of April and May last it, however, came to my knowledge that Mr. C. E. Broome, one of the best and most exact botanists in this country, had experimented with Potato material as suggested by me, and had obtained *Artotrogus* in abundance as I had obtained it. This was a most fortunate circumstance for me, as my resting spores had now been sleeping so long that some persons began to think they would never wake up again. The sleep had indeed been long, but as there is notoriously no road without a turning of some sort, so my resting spores at last ceased to rest, and then reproduced the fungus of the Potato disease.

The resting spores were obtained late in the summer and in the early autumn of last year (1875) both by Mr. Broome and myself, by keeping infected Potato material constantly and uniformly moist. Mr. Broome maintained his bodies alive by simply keeping the old leaves in a slanting saucer in which was a small but constant and uniform supply of water, and the whole kept under a bell-glass. I was afraid of putrescence, mildew, and infusoria, so kept my last year's materials in sealed bottles either with a little water or with expressed juice of horse dung diluted with water. In these bottles most of my resting spores have retained life. I have kept my Potato mash free and under darkened bell-glasses since last April, and no foreign parasites to any damaging extent have appeared. Before germination most of the resting spores grew considerably in size, many attaining four times their original bulk.

The accompanying illustration, fig. 6, is an attempt to show the nature and habit of the Potato fungus, principally in its resting condition. All readers of the *Journal of Horticulture* probably know that plants when viewed under the microscope are seen to be built up of minute cells or bladders, the cells adhering by their outer surfaces like bricks in a wall or cells in a honeycomb. This bladdery structure is more or less supported and strengthened by numerous springs or spiral vessels. The minute springs are shown at A, with the resting spores of the Potato fungus within the threads of the springs. The

cells or bladders are shown at the base of the hair at *b*, the cells of the skin of the leaf at *c*; the latter have an irregular outline, and fit one into the other after the manner of the bones of the skull. At *d d* may be seen two slits in the skin; these slits are the openings by which the plant breathes. The moisture within the plant pours out through these slits in the

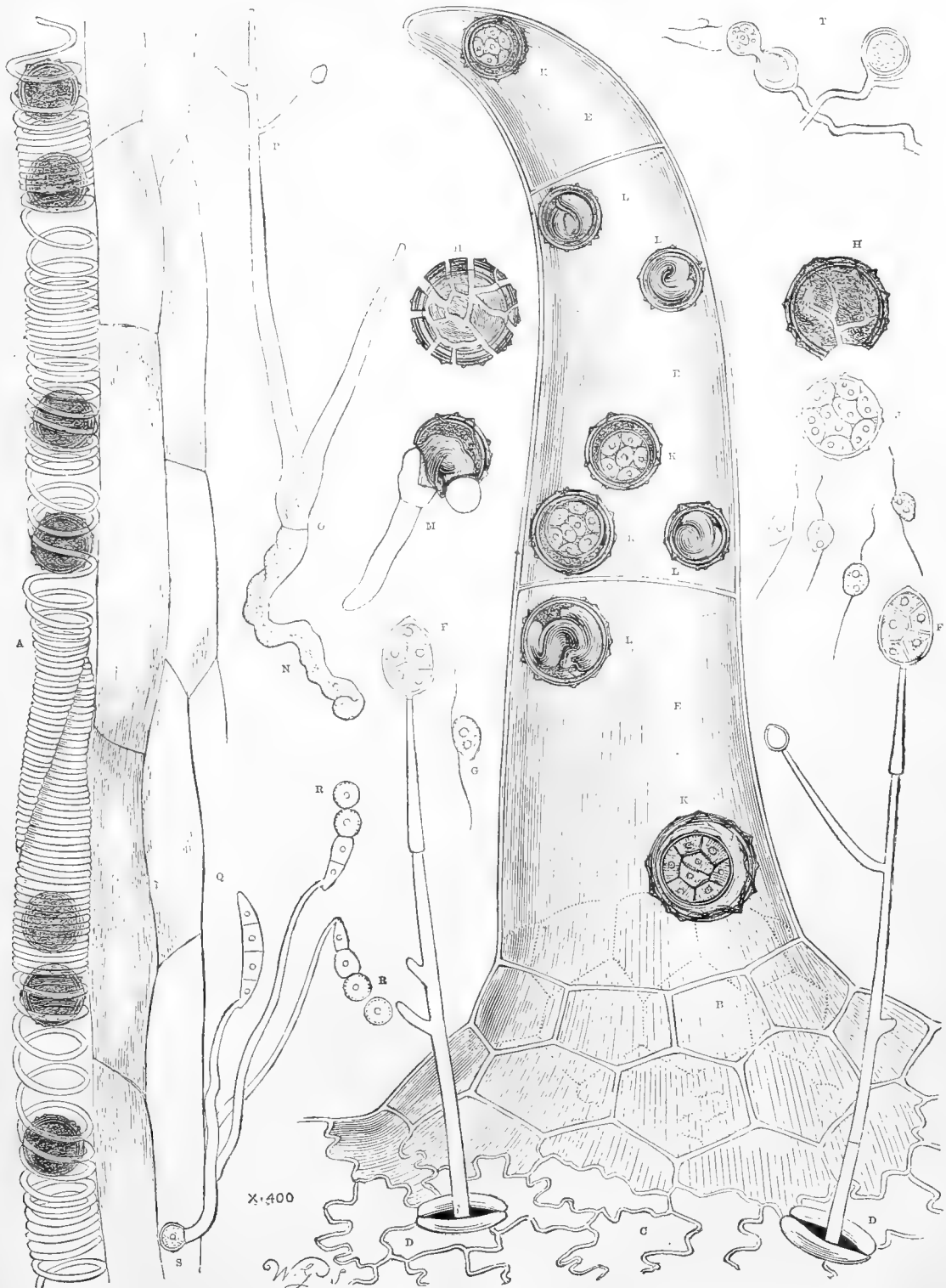


Fig. 6.—THE RESTING SPORES OF THE POTATO DISEASE FUNGUS (*Peronospora infestans*) enlarged 400 diameters

form of vapour, and there are a hundred thousand or more of them to every leaf. The tall body at *E E E* is one of the hairs of a leaf built up of three cells, like one chimney pot on the top of another. The Potato fungus commonly traverses by its spawn the interior of the leaf; as a rule it pushes itself between the bladdery interior cells, and emerges to the light



through the hundreds of thousands of breathing spores (D D) of the leaf. The common form of the fungus is seen emerging through these breathing pores and producing its fruit at F. This fruit at a certain period of growth exhibits the marks as shown on the cut; these marks are similar in character to the lines seen on water when it begins to freeze. Later on the fruit or spore bursts into about six, seven, or eight portions, and each portion soon acquires two tails as seen at G. These latter tailed bodies are the zoospores, for, though vegetable in nature, they swim about by their two tails like animals, and often float again into the very same breathing pores from which the thread which bore them only shortly before emerged. Dew, mist, or rain supplies the moisture in which they float on the leaves. Now, wherever these zoospores germinate they at once (by poisoning the material of the plant) give the Potato the murrain, and the experiment which proves it has been repeated many times and by different competent observers. As the healthy Potato will always take the murrain from these spores as certainly as a healthy man will take the small-pox when inoculated for that disease, it is reasonably considered by botanists that the Potato fungus will cause the disease.

The various dark circular bodies seen in the illustration are the mature resting spores of the Potato-disease fungus as obtained by me from the Chiswick Potatoes last year. At first they were carried on threads and were semi-transparent and much smaller in size, and in this latter condition they were illustrated for the *Journal of Horticulture* last summer. They arose, as is there stated, by a male anther-like body attaching itself to a female stigma-like or pistil-like body. From this contact arose the eggs or resting spores of the Potato fungus. During the months of May and June last most of these resting spores germinated. The first sign of renewed life was the cracking of the outer skins as at H H, just as the skins of some seeds crack prior to germination. An inner bladder was often expelled as at J, and this bladder may be seen still inside the resting spores at K K K K. This bladder in its turn frequently cracked to pieces and set a number of tailed zoospores free exactly similar in character with the zoospores produced at F, and one of which is seen free at G. On being placed upon slices of Potato and upon Potato leaves they at once grew, corroded the cells of the plant, and reproduced the murrain. Other of the resting spores, as shown at L, L, L, L, did not produce zoospores, but instead of these bodies they showed the spawn coiled up worm-like within. When the outer skins of these latter resting spores cracked the spawn unwound as at M, emerged and got free as at N, and exhibiting a joint at O produced the fungus of the Potato disease terminal as at P.

Now, although these phenomena are described in a very few words, they represent a whole year's harassing, anxious, thankless work. As I did not know whether the resting spores intended to sleep for ten days or ten months, I was under the necessity of constantly watching them. Everyone knows how a batch of apparently healthy seeds may on germination all damp-off and die, and how to avoid this different soils, temperatures, and conditions must be tried by seed-growers. In the same way I divided my material, and to avoid any chance of failure got the resting spores to grow under every condition of which I could think. They grew remarkably well under most of my conditions, the best being, probably, expressed juice of Potato leaves upon moist fragments of clean broken flower-pot and in diluted expressed juice of horse dung upon similar fragments, always kept moist and shaded under darkened bell-glasses. Most of my conclusions (and all the really critical ones) have been confirmed either by the Rev. J. E. Vize, Mr. C. B. Plowright, or Mr. C. E. Broome. A strong attempt was made last year to connect my resting spores with one of the Saprolegnias (as they are termed), fungi commonly found upon decaying insects in water, and because I illustrated my spawn threads with joints an equally strong objection was taken to these jointed threads because the insect fungi have threads without joints. But my spawn threads were correctly represented as jointed; the Potato fungus has jointed threads, and one of the resting spores which germinated displayed three joints. On sending the mounted preparation with the drawing to Mr. Berkeley for confirmation he replied, "I found the germinating oospore exactly as you figure it. There can be no doubt about the matter." There is a second fungoid pest of Potatoes named *Fusisporium solani*. This pest, says Mr. Berkeley, "causes rapid and loathsome decay, especially when in company with the *Peronospora*." It generally is in company with it, and the two marauders were together last year at Chiswick, and in attempting to bring down the *Peronospora* I

shot both birds with one charge. The fruit of the *Fusisporium* is shown on its thread at Q. The fruit has three joints, and so each fruit commonly produces four new plants; but during my experiments I have observed that certain fruits instead of germinating at once round themselves off into spheres as at R, R. These spherical bodies then go to rest for about two months, when they burst as at S and at once renew the species. So that under favourable circumstances we get six resting spore generations of *Fusisporium* and one of *Peronospora* every season.

I have maintained the resting spores of both fungi in vigorous health—1, in old decaying Potato leaves kept moist; 2, in scrapings of the tuber kept more or less water and damp air; and 3, in diluted expressed juice of horse dung. I have not the slightest doubt in my own mind that the resting spores of both the above-described pests naturally abound every year in myriads in old moist Potato refuse, especially when it is allowed to remain about ditch sides, damp places, and dung heaps, and from these situations and upon the ground the Potato fungus first grows, and there the disease springs every year.

Since my observations were printed last year many papers have been published on the same subject, and some botanists have obtained an organism similar in some respects with mine. De Bary's plant may be taken as a general type of all. It is called a species of fungus new to science by De Bary under the name of *Pythium vexans*, and I have engraved it at T to the same scale as the bodies observed by me. De Bary does not claim his plant to be the same with mine, although a suggestion to this effect has been made elsewhere. De Bary's plant is much smaller than mine, and has continuous threads without joints; my plant is carried on jointed threads and produces a resting spore which sleeps for ten or eleven months before germination. De Bary's plant has no true resting spore. My plant grows upon and appears to be peculiar to Potatoes, whilst De Bary's only produces fruit or dead insects.

When the habit of a disease is fully known a cure or palliative ought to be forthcoming, unless the disease is incurable. There seems to be no reason why something should not be done with the Potato disease, especially after what has been done with the disease of the Vine and other plants, but just now any suggestion for remedial treatment must be premature.

When my first notes were published I attached very little importance to them, and I had no settled intention at that time of carrying my experiments any further. As my observations were, however, seriously challenged in different quarters I thought it better at extreme inconvenience to myself to watch the bodies discovered by me in the Chiswick Potatoes through an entire year. The result is now before your readers. If no one has seen these bodies before it is simply because they have not looked for them in the right place and in the right material. That the resting spores are produced in millions in decayed Potato material there can be no manner of doubt, and as Mr. Broome has also obtained the same results I do not stand alone.

The work to be taken in hand now is to prevent the formation of the resting spores, or if formed to destroy them. If these bodies are once killed Potatoes will not suffer much from the ordinary spores or the "perennial mycelium" in the tuber pointed out by Mr. Berkeley in 1845.—WORTHINGTON G. SMITH.

### SYRINGING.

HAD "W. J. B." reserved his opinion until in possession of all the facts, it might have been different to that given at page 466. Your correspondent states, "that even in nature if the rain could reach the under sides of the foliage of trees it would often be of great benefit;" but "if we follow nature," writes "W. J. B.," "we find that during showery weather vegetation is freer from insects than during a time of drought." This is clearly not because it "rains upwards," but is effected by the action of the water upon the upper surfaces of the leaves. "W. J. B." instances two Rose trees which he experimented upon by syringing one regularly and not syringing the other, and in one case he had "healthy foliage and fine blooms," in the other "thousands of insects"—only what might have been anticipated. His Rose evidence shows neither the necessity, or otherwise the value, of syringing the under side of the leaves. "The water was applied to the under side of the foliage, but it did nothing but good." Decidedly, no injury could follow; but would not the result have been equal had the other Rose had distributed over its head a like quantity

of water? The good resulting of "the water applied to the under side of the foliage" might be, and no doubt was, due to the water moistening the soil for a distance around the plant at least equal to the spread of the head. The water would feed the roots, cool the heated tissues, and have a mechanical action in freeing the foliage of dust and insects.

There can be no objection to syringing plants overhead with "pure clean water," but collected water is often anything but that; and I repeat that when moisture in sufficient quantity is afforded the roots and atmosphere, the necessity for syringing Vines and other subjects (which from their position can only be done on the under side of the foliage), does not arise, and is in all cases of sedimentary matter following, syringing is more calculated to injure than benefit. I applaud the right use of the syringe as much as I deplore its abuse, but I am satisfied that there is much thoughtless and unreasonable squirting in vineries and other glass structures.—G. ABBEY.

### THE WAY TO GROW HAUTOBOIS STRAWBERRIES.

I DARE say some will say, "I knew all about growing Hautbois Strawberries before." If so, why did you not tell me? For I have asked more than once for information on the subject in this Journal, and scores of times verbally, in fact of everyone I met who I thought likely to know anything about it. True, I have not been short of advice of one sort and another. One adviser said I had not the right kind, another that the soil was wrong, a third that I gave too much manure, and a fourth that I ought to give more. Others recommended cutting off the tops, and others growing the plants from seed.

I changed plants, soil, aspect, and treatment all to no purpose. I had plenty of foliage, flowers, and fruit such as it was, but the greater portion of it was undersized and perfectly dry and hard. Perhaps three, or sometimes half a dozen, fruits would swell off on a plant, and I could scarcely gather a dish of fruit at a time from a large patch. When I did manage to pick a tolerably good dish it was very highly commended, and my employer expressed a wish for more. I have been obliged to admit more than once that I did not know how to grow them—rather humiliating this to one who has given his life to this and kindred subjects.

Speaking one day to a neighbouring gentleman about Strawberry growing, he informed me that he used to have Hautbois Strawberries in abundance without any special cultivation; that they, in fact, grew in an almost wild state on the site of an old ditch, and I believe he added that since those plants were removed his gardener had not been able to do much with this kind of fruit. I at once attributed his former success to moisture and shade, and secured both for my plants during the following season, but the result was the same as before. Now I am happy to say I have found out the secret. A portion of my plants last summer were left without any trimming, the runners being allowed to remain where they rooted naturally, and the result is that on these runners there is one of the greatest crops of Strawberries I ever saw, and all the fruit swells off to a good size. There is hardly a fruit on the old stools from which the runners proceed; and the plants kept clear of runners according to the orthodox method of Strawberry growing are, as they ever were, almost fruitless.

Now I know what to do. Hautbois Strawberries in future will be planted 3 feet from row to row, early runners will be encouraged to root in the space between the rows, and the old stools and surrounding soil dug clean out every season and replaced with fresh rich soil for the encouragement of another succession of runners. Heavy loam liberally treated is the best soil for this and all other Strawberries, excepting President and perhaps the Alpines.—WILLIAM TAYLOR.

### EXHIBITORS' WRONGS.

WHEN I first wrote to you to denounce two-day Rose shows I mentioned that exhibitors obtained no redress if their boxes, &c., were injured or lost on the return journey; but I was not then aware that such a case as the following was possible. On Wednesday and Thursday, July 5th and 6th, I exhibited at the Westminster Aquarium. One of the classes in which I staged was the open class for twelve varieties. Boxes could not be removed except between a late hour on Thursday evening and 10 A.M. on Friday morning. A friend of mine engaged to remove my boxes and arrived at 9.30 A.M. on Friday. Not only was the cover of the box exhibited in the open twelve gone, but more than half the tubes as well. For

a week no notice was taken by the Manager either of my letters or of four visits paid by my friend. I am now coolly informed that the articles have been looked for and cannot be found. That is to say, unless I go to the expense of legal process there is no redress. Have any other exhibitors suffered similar losses?—T. H. GOULD, *Mortimer*.

### ROSE SHOWS—ROSE ELECTION.

THERE is an error in your otherwise (I am proud to think) truthful report of the Maidstone Rose Show. It is with regard to the class for thirty-six varieties, in which you say there was no competition. There was keen competition, the prizes falling to the same exhibitors as those for forty-eight trebles, and in the same order—viz., Messrs. Paul & Son, Mr. Cant, and Mr. Turner. I should like to avail myself of this opportunity to endorse (which our lately purchased experience I regret enables me to do) all that your correspondent wrote a few weeks ago about Rose shows financially. It is a fact that in this town of nearly thirty thousand inhabitants ("D., Deal," was too lenient in giving eighteen or twenty thousand as our number) we only took £1 for every thousand. I think we shall not spend our money in a vain endeavour to attract the public next year.

May I say one word about the forthcoming election? It is with regard to the "best stock for Roses." I venture to doubt the utility of recording the opinions of Rose-growers upon the question, seeing how entirely the choice of a stock depends on the soil. Would not the experience of growers as to the particular stock which suits each Rose be more useful? and by taking the aggregate of votes for each stock the idea of Mr. Hinton would also be carried out. The letters B., S.B., M., or O for Briar, Seedling Briar, Manetti or Own root, might be annexed to each Rose according to its partiality for one or the other. Let those who would omit the "O" try Charles Lefebvre, Camille Bernardin, and one or two others I could name, taking strong plants and cutting back very hard.—HUBERT BENSTED.

### PEACH BLISTER.

I AM quite ready in the friendliest way possible to supply a few "facts and not fancies" on this subject. For instance, at the earliest stage of blister, and when the Peach leaf first begins to show signs of discoloration and thickening, the spawn of *Ascomyces deformans* exists and can be seen within the leaf. This fact has been repeatedly observed and confirmed. Again, the spawn within the leaf at this early period excites the growth of the plant, destroys the chlorophyll, and greatly and irregularly multiplies in number and enlarges in size the constituent cells of the leaf: hence the enlargement and thickening. It is a fact that the fungus spawn causes this, and commonly causes similar phenomena; but the statement that the east wind can do these or similar things must be put down as a mere fancy. When the leaf is enlarged, the interior corroded and the blister formed, the disease still progresses, and now bursting through the cuticle it lives on the outside instead of the inside of the leaf. I maintain that it is only a fancy to suppose from this observation (which cannot be denied) that the fungus has only latterly established itself upon the blister. The fact is, as I said before, that, though unseen, the fungus primarily caused the blister when inside the leaf by enlarging, increasing, and corroding the cells. This condition of the leaf is illustrated by me in a drawing now exhibited in the Kew Museum. It is a fact that the spores of the fungus of the Peach blister will only grow on the Peach and its immediate allies, and when the spores do germinate they at once repeat the phenomena recorded above quite irrespective of wind, whether north, east, south, or west. On the strength of the above-recorded facts it is reasonable to believe that *Ascomyces deformans* certainly can be, and is, the cause and not the result of Peach blister.

I have no desire to be mischievous in my endeavour to record observations which I believe to be facts, and I know well (as does everyone else), that cold searching winds will throw plants out of health and injure their foliage, but it is a mere fancy to suppose the east wind will or can cause the known phenomena of Peach blister. The wind which carries so many diseases may very possibly carry the spores of *Ascomyces*. It must surely also be the record of a mere fancy, and one, too, of the most transparent kind, of Mr. Luckhurst's when he writes, "Mr. Smith evidently confounds blister with

curl caused by aphides." In answer to Mr. Luckhurst's challenge, I have stuck throughout to the true blister of Peach leaves as caused by the fungus, and distinct from injured leaves as punctured by insects or damaged by bad weather. I know all conditions of the leaves equally well.—W. G. SMITH.

To Mr. Smith's statement, that Peach blister "often occurs with great virulence inside the most carefully protected houses," I can only reply that I have never seen it in such houses, and I have been intimately connected with Peach trees for a quarter of a century. I have seen Peach blister under glass, but never when the foliage has been "carefully protected," the evil in every case coming under my notice having been directly traceable to careless ventilation or the sweeping of the wind through crevices.

Mr. Smith speaks of "one form" of blister, but the blister which is such a terror to gardeners, ruining their crops and frequently their trees, is—according to the experience of Mr. Luckhurst, Mr. Taylor of Longleat, and Mr. Taylor of Hardwicke—caused by the extreme cold of spring, and is preventable by the protection afforded by glass or canvas. That is also my own experience.

If the blister were caused by fungus it is not preventable by protection, but I cannot permit such a dogma of despair being established without recording my protest against it.

The Peach blister which gardeners have to combat is preventable. If means of protection are afforded and are applied we should have fruit where we have barrenness, and healthy instead of unhealthy trees. That is the great object which is sought for, and which is attained by those who carry out that practice.

I have frequently seen the curl under glass, but seldom the blister, and I cannot help thinking that Mr. Smith has confounded the two evils to which the Peach tree is subject.

I am not surprised that a paragraph recommending the daubing of the wood in winter to prevent blister affecting the leaves which appear three months afterwards should have been smiled at by some and confuted by other practical men, for the practice is an old and exploded one.

Science has done much for gardening, and Mr. Smith is a most industrious and successful investigator of matters hidden from ordinary observers; but however necessary the microscope may be to reveal the first cause of a malady, it is not necessary to show the remedy for Peach blister, for that remedy is glass in spring to protect the foliage, and not "lime, soot, and sulphur" besmeared over the wood in winter. It is only fair, however, to note that Mr. Smith does not advocate daubing.

The loss of even one crop of many a Peach tree is as costly as would have been the glass to cover it, and the good effects of the protection are permanent in securing blister-proof trees and full crops of fruit in after years. Daubing the trees in winter may do no harm, but it certainly cannot prevent blister, even were it caused by fungus, but efficient protection is a certain remedy of the evil complained of. This I have proved repeatedly, and am fortified by the successful practice of many able gardeners.—A SURREY GARDENER.

### THE GLASTONBURY THORN.

This mysterious shrub or tree, which in the middle ages was an object of sacred interest, is now chiefly interesting on botanical reasons. I believe it has not been referred to in print for some time, but a correspondent of "Notes and Queries," who signs himself "J. B.," gives an account of a recent visit to Glastonbury Abbey. Loudon, in his "Arboretum Britannicum," mentions the early-flowering or Glastonbury Thorn under the name of *Crataegus oxyacantha præcox*, stating that the variety comes into leaf in winter, and the flowers following speedily, it may be, occasionally in mild seasons, in flower at Christmas, according to the legend. And he had ocular evidence of the fact, as he had specimens sent him from Glastonbury in 1833 and 1834 during December, the branches having on them flowers and ripe fruit also, the latter, of course, produced from flowers of the previous May. He found, on inquiry, that plants at Loddige's nursery and in the gardens of the Horticultural Society would occasionally flower in the winter, and at other times in the early spring. The traditional story, which is pretty generally known, is that the original tree was the staff of Joseph of Arimathea, who, coming to Glastonbury, drove his staff into the ground in winter, when it at once put forth leaves and blossoms, continuing to do so at the same season, a tale which brought some profit to the monks.

"J. B." states—"The tree shown to me was a young tree, probably about fifteen years old, and to my surprise I found it with a great many double blossoms opened on April 19, which is a full fortnight or more in advance of the very earliest Hawthorn in the Regent's Park." This, however, is nothing very remarkable, but he was assured by a man in charge of the Abbey grounds that "it invariably blossomed twice a-year, once at Christmas and once in April or May." And he adds, "There seems no reason to doubt that the Glastonbury Thorn is a peculiar variety, which blossoms twice a-year, once being about Christmas time, but with a variation of a month or more according to the weather, as is the case with the Furze, the Mezereon, and the Hazel." But there still seems a difficulty in getting to the bottom of the history of this Hawthorn variety, for supposing a winter-flowering as is stated, it is more reasonable to expect the second flowering would not be earlier than the average, but rather later. Nor am I aware that the assertion made by some writer has been verified—namely, that seedlings of the Glastonbury Thorn exhibit the normal habit only, and to obtain winter-flowering specimens propagation must be by cuttings.—C.

### THE WEST OF ENGLAND ROSE SHOW.

NEMESIS, dire revenge, has overtaken the writer of this article, and many will be the chuckles and expressions of delight which will proceed from the mouths of "D., Deal," Mr. George Paul, and notably Mr. Lacharme when he sees these pages; for, astounding fact though it be, it is also true that my Baroness de Rothschild was beaten by Madame Lacharme at Hereford on July 13th, 1876! For five consecutive years had I taken the first prize with the Baroness in the class for twelve blooms of one variety, and I fondly hoped I should do it again; but the fates in the persons of two of the finest Judges in England, Mr. George Paul and Mr. Cant, decided that I should sing second to Madame Lacharme. This was the only drawback to a most successful Show—a Show, too, which was, I think, the finest ever seen at Hereford.

Four nurserymen were in magnificent bloom. Messrs. Cranston & Mayos, Messrs. Paul & Son, Mr. B. R. Cant, and Mr. Davison of Hereford, all put up superior stands. The schedule was a most liberal one, for in addition to the ordinary prizes for seventy-two varieties, was another open to the United Kingdom with the exception of the county of Hereford, and for this seventy-two no less a sum than £20 was given for the first prize, £10 for the second, and £5 for the third. These grand prizes, however, only produced three competitors, and one of these was not at all in form. Messrs. Paul & Son and Mr. Cant, however, staged remarkably well, and it was a great treat to go over their stands and notice each bloom carefully. I and Mr. Baker were the two Judges, and I do not think I ever enjoyed anything more than judging those stands with him. We had kindred minds and the same ideas as to the rules of judging. We took each bloom singly, and determined not only whether it was a grand bloom, but whether the variety was represented in proper form. We did not expect to see a Duke of Wellington the size of an Etienne Levet, or a Countess Nadailac as large as a Gloire de Dijon. And that I think and contend is the right way to judge, and the test of a good judge is to be able to know whether each Rose was in fair form, fresh colour, and in perfect condition.

Mr. Cant was first, and considering that one of his boxes mis-carried and did not turn-up till too late to be of service to him, and also taking into account the length of the journey and the time (thirty hours) that his blooms had been cut, and not forgetting what tremendous heat they had to contend with, I think that no greater triumph has ever been achieved than his winning the first prize at Hereford for the open seventy-two. To mention his fine blooms would be like marking seventy-two of the finest sorts from one of his catalogues and writing "superb" against each. There was hardly any fail, I do not think three blooms could be found which the severest censor could find fault with. But some of the blooms I admired most were Mons. Noman, a variety always shown well by the Colchester grower; Mdle. Marie Finger, François Michelon, and Madame Lacharme among the lights; and Pierre Notting, Reynolds Hole, Charles Lefebvre, Marie Rady, and Auguste Newman among the darker varieties.

Mr. George Paul showed some excellent Teas, among which was one I had never seen good before—Mons. Furtado. He had the most perfect bloom of this in his close seventy-two stand, and one nearly as good in the open seventy-two. He also showed some marvellous blooms of old varieties which we rarely see good now, notably Queen Victoria, a Rose raised at Cheshunt; and La Duchesse de Morny, Thérèse Levet, and Madame Clert. In his seventy-two were grand proofs of the benefits he has conferred upon the Rose world in general, for he showed no less than six of his own seedlings—namely, Empress of India, Duke of Connaught, Reynolds Hole, Richard Marnock, Sultan of

Zanzibar, and The Shah, and these were all good Roses and which will be welcome additions to our gardens.

Messrs. Cranston & Mayos "swept the board." They took first in every class save one, and that one was (hear it and rejoice, Mr. William Paul) where their grand Rose Sir Garnet Wolseley was beaten by Star of Waltham. Of course, at Hereford we expect to see Mr. Cranston very fine, but considering the weather and the exposed situation of his nursery the stands he staged were simply wonderful. For months he has had no rain, and at King's Acre he has to pump every drop of water. This drought succeeded the coldest spring and the longest winter he has had for years. His soil is one that requires moisture more than any other, and he is more dependant upon a genial season than any of his great rivals, and yet he showed us blooms that would lead you to suppose that everything had been in his favour. It was hard to believe, as we walked over his nursery and saw how dreadfully he suffered from want of rain, how the Roses we had seen could have come from there; but at the very extremity of his nurseries we found an orchard which had been broken up two years ago, and there, under the shade of Apple and Pear trees, the plants had done well, and given him nearly all his blooms.

But, among other surprises I had this year at Hereford, I must notice the marked improvement made by Mr. Davison. He showed a stand of twenty-four blooms of Fisher Holmes which were simply perfection, and which caused the only difference of opinion between myself and my brother Judge. In this class we had seven stands exhibited—three of Marie Baumann, one of Horace Vernet, Maréchal Niel, and Alfred Colomb. The first prize was won by Mr. Cranston with Horace Vernet, and the second, after calling in an umpire, by Mr. Cant with Alfred Colomb. I was most anxious to give the second, or at least an equal second, to Fisher Holmes, but the general feeling was against me, although I rejoice to say Mr. Cant (the winner) assured me he thought I was right.

And now for the amateurs. Messrs. Cranston & Mayos most liberally offered a challenge cup value £15 15s., to be competed for by amateurs. This, of course, brought a great number of exhibitors. Mr. Arkwright of Hampton Court, Mr. T. Jowitt of Hereford, Mr. Baker of Exeter, Rev. Charles Evans of Solihull, and myself were the principal exhibitors. Mr. Baker and myself had to cut our blooms twenty-four hours before Mr. Jowitt and Mr. Arkwright; we had also a ten-hours journey on one of the hottest days of the year, and I had to change my boxes no less than four times, and yet we ran the Hereford men hard, or so we think. Mr. Jowitt won the cup, and won it well; and a first-class rosarian and a most enthusiastic exhibitor now enjoys the great happiness of excelling in his second year as exhibitor the giant Hercules, his powerful neighbour at Hampton Court, and all the rest of us. The Rev. Charles Evans was placed second, Mr. Baker was third, and they were kind enough to give me an extra.

There was very great competition in all the other stands, and the prizes were won principally by Mr. Arkwright, Mr. Baker, Rev. C. Evans, and myself.

And now let us say a word or two about the hospitality of Hereford, the graceful adjuncts of the lovely Show. It would require the pen of a nineteenth-century Horace to tell of this. Mr. Cranston entertained all the great nurserymen and the principal amateurs in a manner which I wish that many others would but imitate. It was a show and a meeting long to be remembered by others besides—J. B. M. CAMM.

## WEST OF SCOTLAND ROSARIANS' SOCIETY.

JULY 12TH AND 13TH.

WHILE the West of England has been holding its tournament in honour of the queen of flowers, at which I had been earnestly requested to be present, our friends over the border had been at the same time honouring her at the beautiful little town of Helensburgh, situated at the entrance of the Garelock—a situation which may well challenge any other watering place that I know, and where some most enthusiastic lovers of the Rose have started, and will I hope be able to maintain, a flourishing Exhibition.

The Show was undoubtedly held a little too early for the northern growers in such a season as this has been, and possibly even better blooms than those exhibited might have been brought forward had the Show been later; and as the north of Ireland is apparently somewhat earlier the finest blooms came from thence. There is one peculiarity connected with this Exhibition, and that is that the Society supplies all the stands, or rather supplies tables pierced with holes into which the tubes are placed, and are then covered with moss. Like many innovations it has its advantages and disadvantages. It places all the exhibitors on the same level. It does away with the difficulty that committees have of arranging the amount of room required from the unequal sizes of the boxes. Some persons will exhibit, say, forty-eight blooms in boxes which take up twice the room of another exhibitor. The disadvantages are

these: There is no bringing of two boxes together, as one often likes to do when they run very close, in order to compare them; then when people do not bring their entries, the spaces are vacant, and these have to be filled with spare blooms, which has a tendency to create confusion, and which ought not, I think, to be placed until after the Judges have given their decision.

I find that not only here but all through Scotland the vicious principle of showing Roses with added foliage has been adopted; but I trust that our friends there will see that this is what every true lover of the Rose would desire to see abolished. Independently of every other consideration, it ought to be remembered that sometimes a dishonest exhibitor will put up two blooms of the same Rose in his stand and give them different names. It may be oftentimes very hard to distinguish them, and if there is foliage added it is almost hopeless, but where they are shown as cut from the Rose tree the wood will often lead to an identification; and as to the statement that they cannot get such foliage as in the south, I can only say that in the evening I took a santer through Messrs. Robertson & Galloway's grounds, and found as robust foliage as I should wish to see anywhere.

It would hardly interest the readers of the Journal were I to particularise the different stands and give the names of the blooms. In truth there is very little difference. Wherever a show is held the same blooms are to be seen. What stand is complete without Charles Lefebvre, Marie Baumann, La France, Madame Victor Verdier, and other Roses which we all know by heart? I may say, however, that in the Messrs. Dickson's of Newtonards, Co. Down, Ireland, was one of the finest blooms of Mdle. Marie Cointet that I have seen, and which gained the prize as the best Rose in the nurserymen's class, and a seedling of their own called Alex. Dickson, a large, full, and peculiar-looking flower in the way of Madame Schmidt, and Mons. E. Y. Teas, evidently one of the best Roses of last year; and shall I not add—(aye, Mr. Camm!)—Madame Lacharme, which has this season been neither "as coarse as a navy or as dirty as a scullion?" The gardeners of Major Dumistorn and Mr. Watson, the President of the Society, exhibited some remarkably fine blooms. I have never seen Baronne Maynard exhibited so well; and the best bloom of La France that I have seen this year was in the former gentleman's stand, while the latter obtained the premier prize in his class for a grand bloom of Etienne Levet.

As in most of these cases of a successful show there is one leading spirit to whom the results are in a great measure due, so here it is to the indefatigable exertions of Mr. Galloway of the firm of Robertson & Galloway that the present position of the West of Scotland Rosarians' Society is to be attributed. His is not a provincial name merely. Many of our London friends will recollect how last September he came up with a magnificent stand of Gladioli and wrested the championship from that veteran and successful grower Mr. Kelway. He has worked with a will, and has been ably seconded by the Directors of the Society. I know of no young Society which has a better promise of lengthened days, and I shall ever esteem it a happy thing that I was enabled to go so far north to assist in their tournament in honour of the queen of flowers.—D., Deal.

## NEW BOOK.

*Complete Manual of Orchid Culture.* By EDWARD SPRAGUE RAND, JUN. Hurd & Houghton, New York.

LIKE the "Orchid Manual" by Mr. B. S. Williams, this book has been prepared by an enthusiast in Orchid culture. The author's experience has been gained at Glen Ridge, near Boston, and the cultural directions are more intended for American than English gardeners. The following advice on purchasing Orchids should be noted by those intending to commence their culture. "If a dealer wishes to disgust a beginner with Orchid culture, let him send him a dozen plants for twenty-five dollars. Put the same money into two or three good plants, and the result will be a virulent attack of Orchid fever." "Orchids," continues our author, "are the élite of the floral kingdom; they combine more of beauty, fragrance, and singularity of structure than any other family of plants, and, certain rules being observed, are generally as easily grown as Roses, Pinks, and Violets." We agree with the first part of this paragraph, but not the last. Orchids are not as easily grown as Roses and Violets, nor can they be grown by the observance of certain rules. A grower may observe certain rules at one place, and be quite successful in the culture of certain species. He may observe the same rules at another place and in a similarly constructed house, and just be as unsuccessful as he was formerly successful. Take one or two species as illustration. A gardener grows a batch of *Phalenopsis* remarkably well, the leaves and flowers even surpassing those of their native wilds. In two or three years these fine plants will begin to die-off or go back, until they are a wreck of what they used to be; and all the care and anxiety



of the same cultivator cannot help it. Splendid plants of Goodyera will go back in the same way after being grown up to a high standard, and drag out a miserable existence for a few years. This does not happen to Roses and Pinks, and the observance of certain rules will not prevent it.

The chapter on Orchid culture in the United States is interesting, as showing the increasing attention paid by cultivators in America to this fine class of plants. There is a long descriptive list, which occupies 272 pages. Part of it is the author's own, but he has also made free use of the "Orchid Manual" and other works, which he likewise freely acknowledges. His popular descriptive list might be greatly increased in value if cultural directions had been given with those species of any genus requiring special treatment. Take for instance *Cattleya superba*. It is one of the most beautiful of the whole genus, and all we are told about it is "that it is a slow-growing species, that requires more heat than the other *Cattleyas*," and "it should never suffer for want of water." Not a word is said about any special treatment; but pot it, and treat exactly like *C. Mossii*, *C. Warnerii*, *C. crispa*, &c., and the plants would all be dead in six months. Fasten it to a block like some other *Cattleyas*, and it will not succeed for any length of time. The best way to grow it is on the stem of a Tree Fern. On this the plants will grow and flower freely for many years. It requires the heat of an East India house. Information of this sort is not only valuable for beginners, but those who have grown Orchids for many years are sometimes at a loss to find out the right treatment for a special plant. Still this descriptive list contains a mass of very useful information, and the book as a work of reference will be very useful.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

*COSMIBUENA OBTUSIFOLIA* var. *LATIFOLIA*. *Nat. ord.*, Rubiaceæ. *Linn.*, Pentandria Monogynia.—"This handsome plant seems to be widely spread in the hot valleys of the Andes of Cauca in New Grenada to Tarapoto in Peru, forming a beautiful small tree 20 to 30 feet high, with white fragrant flowers and a slightly bitter bark. *C. obtusifolia* was sent to Kew by M. Linden of Brussels under the name of *Cascarilla grandifolia*, which I do not find in any publication; it grew to a considerable size in the Palm house, but never flowered. A cutting, however, given to Mr. Howard and placed in a stove speedily flowered, and from it the accompanying drawing was made. The Peruvians, according to Mr. Spruce, call this plant 'Azahar-sisa,' because the flowers smell like 'Agua de Azahar' (orange-water).—(*Bot. Mag.*, t. 6239.)

*PESCATORIA LAMELLOSA*. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Flowers yellow, orange, and brown.—"P. lamellosa is not nearly so handsome a species as P. Dayana, though sufficiently attractive. It flowered at Veitch's establishment in August of last year, to which the plants were sent by its discoverer Mr. Wallis from New Grenada."—(*Ibid.*, t. 6240.)

*CORROPSIS* (*TUCKERMANNIA*) *MARITIMA*. *Nat. ord.*, Compositæ. *Linn.*, Syngenesia Frustranea. Flowers yellow.—"A native of maritime rocks in California, where it was discovered by Nuttall in 1834-5, and introduced by him into American gardens, and from whom we have dried specimens collected at St. Barbara and at Utah. There are also specimens in the Hookerian Herbarium, collected earlier still by Coulter, but from what precise locality is not indicated. The specimens here figured were received from Mr. Thompson of Ipswich, and flowered both at Kew and at Ipswich in September, 1873-4. It is described as a perennial in America, but is of annual duration in this country."—(*Ibid.*, t. 6241.)

*TULIPA HAGERI*. *Nat. ord.*, Liliacæ. *Linn.*, Hexandria Monogynia. Flowers scarlet, yellow, and green.—"It was discovered by Dr. Von Heldreich in 1862 on the hills of the Parnes range in Attica, growing with *T. Orphanidea* at an elevation of 1600 feet above sea level. The drawing was made from a specimen presented by Mr. Elwes to the Kew collection, which was in full flower on the 24th of April of the present year, and we have also received it from the Rev. H. N. Ellacombe and Rev. H. Harpur-Crewe."—(*Ibid.*, t. 6242.)

*MORICANDIA SONCHIFOLIA*. *Nat. ord.*, Cruciferae. *Linn.*, Tetradynamia.—"This very showy Crucifer, though described as long ago as 1832, has hitherto been known only from dried specimens collected by its discoverer, the veteran traveller and botanist, Professor Bunge of Dorpat, who accompanied a Russian mission to Pekin from Siberia in 1831. It is a hardy annual, remarkable for the bright colour and delicacy of its

purple corolla, and being easy of cultivation is likely to become as great an acquisition as its near ally, the old garden favourite, the European *M. arvensis*, which has been in cultivation since 1739. Another species is the beautiful *M. Bamburii*, a native of Spain. The Royal Gardens are indebted to Dr. Playfair, late medical officer attached to the Embassy at Pekin, for seeds of this plant, which flowered in March of the present year."—(*Ibid.*, t. 6243.)

**APPLE**—*Worcester Pearmain*.—"None of the Apples to be found in our gardens and orchards excel the Worcester Pearmain in brilliancy of colour. The symmetrical form and good quality of the fruit, combined with its charming and attractive colour, must give it one of the most prominent places among dessert Apples; while from its free growth and great productiveness, it cannot fail to claim the attention of all who grow fruit for profit. It bears as freely as the well-known Apple Lord Suffield, and must soon become one of the leading sorts for market, as well as for exhibition; indeed, no collection should be without it. We have to thank Mr. R. Smith of Worcester, who holds the stock of this Apple, for the specimens figured, and which are very faithfully portrayed by Mr. Macfarlane. It is a beautiful Apple, as the illustration shows, and that it is as good as it looks is the general verdict which has been given wherever exhibited. It was much admired by the Fruit Committee of the Royal Horticultural Society when shown at South Kensington on October 6th, 1875, and was awarded a first-class certificate. The tree is said to be a seedling from the Devonshire Quarrenden. The fruit is medium-sized, 2½ inches wide and the same in height, conical, very symmetrical, and pearmain-shaped, with a smooth glossy skin, which is completely covered with a brilliant crimson-red, dotted with minute fawn-coloured spots. The eye is small and prominent, surrounded by a few plaits. The stalk is three-quarters of an inch long, deeply inserted in a russet cavity. The flesh is white, tender, crisp, sweet, and very pleasantly flavoured. It ripens in August and September, and will keep until Christmas. This exceedingly handsome Apple is sure to become a general favourite."—(*Flor. and Pom.*, 3 s. ix., 121.)

## GLASS HOUSES VERSUS BRICK WALLS FOR FRUIT CULTURE.

PERHAPS there is not another country in the world where there is such an amount of money invested in, and so much skill and persevering energy applied to fruit culture, with such a small return in the way of fruit crops of a certain class, as in Great Britain. If, for example, it be considered how much money it takes to erect good garden walls, and the labour expended in the making of suitable wall-fruit borders, the concreting, the draining, and the bringing-in of good soil in the majority of localities—for these preliminaries the outlay is immense. Then there is the purchase of expensively trained trees; the annual and constant care required in pruning, pinching, and training, besides the almost continuous battle with a numerous train of destructive insects of one sort and another, and the abortive expedients put in operation annually with the object of saving the blossom from frost and blasting east winds. The sum total of capital invested and labour annually expended is, we might almost say, appalling in comparison with the return in crops of good fruit in the case of such as Peaches, Apricots, Plums, Pears, &c. This, it must be admitted, is of wide application. The wonder is that this losing game has been so long and perseveringly persisted in. We are confident that, in the case of any other department, so fruitless an expenditure would soon be abandoned in despair. No doubt the necessity for walls as a fence and for shelter accounts for this state of things to a great extent.

In a great many localities a good crop of fruit about once in five years is about as much as can be counted on; and perhaps, taking one year with another, the returns in some localities would not pay for the shreds and nails necessary for training the trees. This rule does not, of course, apply to those parts of the kingdom that are more favoured in the way of climate and soil; and in their case walls do good service in producing fine dessert Pears and stone fruits. It is not to these districts that we wish these remarks to apply. Yet, even the most favoured spots in England are not always free from such weather as destroys even wall-fruit crops. But in such unfortunate districts as those to which we are directing our remarks, an amount of disheartening mishaps to wall fruits has to be faced annually, which, it is not too much to say, would

serve to put an end to any other pursuit; while, at some altitudes the work is stoically carried out without any hope whatever of gaining the end in view.

In the times, happily now gone by, when glass was dear and there was no steam-driven machinery for woodwork, there was less cause to wonder at the persistency with which ugly walls were built and hid out of sight of the mansion as an eyesore, and more as a necessary evil for the purpose of a fence and shelter to tender crops than anything else. What can be uglier in a park landscape, especially if it can be looked down on, than a square piece of land hemmed-in with hideous red brick walls? It is as complete a blot on any landscape as can be well imagined; and in the making of new gardens now there is but little excuse for the erection of walls in localities where the climate is not such as to make them give a fair return in fruit crops. Now that machinery driven by steam has taken the place of the ordinary saw, plane, and mortising chisel in the construction of the woodwork of glass houses, and glass is less than half the price it was at one time, a brick wall should never be thought of in many localities for the growth of certain fruits. The difference between the construction of a 15 or 18-inch brick wall and the erection of span-roofed glass structures is not very great; and we are certain that we are within the mark when we say that the bearing surface protected with glass would, taking the average run of seasons, yield quite three times as much and finer fruit than the same surface of walls. If this be so, then it is beyond a doubt that the same money expended on glass as is necessary for walls would yield a larger and better return in fruit; while for the mere purposes of shelter, that can be obtained in a much more ornamental way than by building ugly and unproductive brick fences.

Of course, in the case of old places where the garden walls already exist, it is easy to cover a portion of them with glass, and on a comparatively small area secure three times the fruit that the whole wall surfaces produce of certain fruits. This is a class of structure now getting to be more appreciated. They are adopted in many instances; and we never heard of an instance where they have been brought into operation where the doing so has been regretted, but the reverse. And they cannot be too strongly recommended, not only for the certain return of fruit crop, but for the pleasure they yield into the bargain. No doubt some may be prevented from adopting glass instead of bricks and mortar, from the impression that glass houses are very expensive in tear and wear. It should, however, be remembered that glass houses kept cool and airy and comparatively dry require very little paint compared to ordinary plant and forcing houses; and also that houses as now erected, with a minimum of wood and a maximum of glass, require not half so much paint as the old style of houses. As a matter of pounds, shillings, and pence, even glass houses will pay better than brick walls in very many localities when devoted to the culture of the fruits named at the commencement of these remarks. Besides, such erections can be profitably made use of for other purposes besides fruit culture.

Perhaps some may be inclined to say that we are now merely advocating the orchard-house system—one which is common enough. It is not quite our aim to do this. What we wish to recommend to those who may have new gardens to make in bad climates is, instead of going in so heavily for mere brick and mortar, to invest their money in glass, with the absolute certainty of obtaining regular crops of good fruit instead of running a hundred risks on the bare wall system. Then, as to the furnishing of such erections, some may ask, Are we to cultivate in pots or in borders in the usual way? To the amateur or small grower who would like a variety of fruits from a small glass house, pots do very well; but where fruits are wanted of the very best quality, in great quantity, and with least possible labour, we say Plant your trees in well-prepared borders. Mr. Rivers, the populariser and most successful cultivator of fruits in pots under glass, has set this point at rest most clearly, and so have others as well. In the *Journal of Horticulture* some years ago he balanced carefully—to his credit be it told—the pot system of growing bushes of Peaches and other fruit commonly grown on walls and that of trees planted out and trained to trellises, and showed that a fourth more could be produced by the latter system than by the former.

Moreover, the expense of furnishing a house with trees in pots is much greater than that of furnishing it with trellis-trained trees. The after-labour is also much more, and the chances of failure are also increased by having recourse to trees in pots. As has already been remarked, the system is only to

be recommended when a great variety of fruits in small quantity is the object from a small house. And if expense is not an object, pot trees may be had recourse to in the body of any glass house or case till the permanent trees come into bearing and cover the roof. Stone fruits of all sorts and some varieties of Pears do very well in pots; and such Apples as Calville Blanche are worthy of a place in such structures, both as permanent trees and in pots for a while at first.—(*The Gardener.*)

## NOTES ON VILLA AND SUBURBAN GARDENING.

**KITCHEN GARDEN.**—The weather having set in so dry with intense heat many crops must have special attention to carry them to perfection. For instance, Scarlet Runner Beans will need a heavy mulching for some distance on each side of the rows, and by first stirring the soil and then afterwards giving a thorough soaking, the water will wash some of the nourishing properties out of the manure and carry it into the soil, much to the benefit of the crop. Dwarf Kidney Beans, too, must be similarly treated, or the blooms will not set their pods.

Peas that have been sown in trenches are standing the drought much better than others sown on the level, though they are all stopped in their growth more or less. James's Prolific Marrow is a splendid Pea and delicious in flavour. With me it is better than G. F. Wilson so far as cropping goes, but about the same time in coming in; they are both Peas of the highest merit. Mr. C. Turner's Dr. Maclean is a marvellous Pea; the growth is very vigorous and the pods large; the peas are also large, and from eight to ten in a pod. These dwarf Marrow Peas, such as the above, are to be recommended in preference to the tall Peas for villa gardens. They may not crop so successively as the tall Marrows, but by sowing a little oftener it is easy to keep up the succession. Most of these dwarf Peas make their growth first, and when the crop is fit for use they cease growing, while the others grow and produce pods at the same time. This is the only advantage of tall-growing Peas.

Let newly planted Celery be shaded for a time and be well watered in the evenings. There are many complaints about the maggot in the leaf; this must be picked off immediately it is seen, and be either smashed or burnt. In such weather as we are having is the time when its ravages are most severe.

Break up a piece of ground and make it rich, and put out a bed of Parsley from the seed sown in spring. This is the only way to produce a supply for winter. Plants thus grown produce large leaves, whereas plants left in the seed bed dwindle away towards winter and often fail when Parsley is in particular request.

Let all Broccolis, Savoy, and Coleworts lately put out be well supplied with water, and if possible let the soil be well hoed. It is most difficult in such trying weather to get Endive, Lettuce, and all small crops established; but if the ground is well worked and the plants are watered-in they will partly establish themselves, so as to grow freely when showery weather comes.

If Tomatoes have been attended to they will be coming into flower now, and must be regularly stopped above each bunch of bloom and the shoots well thinned out. No neglect must be permitted in watering and mulching to keep them growing during the short time there is for them to do their work.

Everyone must keep a watchful eye over the Potato crop. About here the early sorts are ripening and will soon require to be taken up. The tubers are very small. The coarse-growing sorts will be the best this year, but even many of them are showing signs of ripening; and if rain should come before long it may save them, but if not the tubers so far ripen off as to begin growing again immediately enough rain comes to reach them they will be spoiled. When it comes to such a crisis as that I would advise the crop being taken up immediately.

Cauliflowers are feeling the effects of the drought and turn in small. Veitch's Autumn Giant is the only sort that endures the heat well: even these will not produce very large heads if dry weather continues. Prepare a piece of ground and enrich it, and as soon as showers come and a dull day or two put out a good breadth of plants for autumn use, when they will keep up a supply along with the White Cape Broccoli.

It will be as well to sow a good piece of ground with Dwarf Kidney Beans; they often do better than the earliest crops, and are always in request. Outdoor Cucumbers are doing better than usual; by this time last year several of my plants had died off.

Turnips for an autumn crop must be considered. It is very little use sowing while the weather is so hot, but the ground may be had in readiness, and immediately rain comes the seed may be sown, and it being seed which very soon germinates, no time would be lost by waiting for rain. Two or three ounces of seed will produce sufficient Turnips for the supply of an ordinary family.

Onions that are bulbing fast and with their tops vigorous ought to be laid down in a gentle manner. Some people do not hold with that plan, but would prefer "blading" them, or in

other words taking off several of the coarsest leaves in order to throw strength into the bulb similar to that practised with Leeks.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

We have now cleared off the early Cauliflowers and early Peas, and have begun to prepare the ground for Strawberries. The runners will be ready for planting out in a week or ten days, but we shall not put them in the ground in that time unless it should rain. The old plants were attacked with mildew almost as soon as the runners were laid into the pots. This year, as well as other seasons, the variety most liable to injury from this parasite is Amateur (Bradley); it could not be fruited in pots on that account, and it will be discarded altogether after this season. When one variety is attacked all the others in the immediate neighbourhood are likely to suffer. Black Prince was the next that has been seriously injured; but this sort so seldom suffers from mildew that we shall not make any difference either in the number saved for potting or planting out. Keens' Seedling, President, La Constante, British Queen, Mr. Radclyffe, Frogmore Late Pine, Duc de Magenta, Auguste Nicaise, and some of our own seedlings have suffered but little from it. As some correspondents have been writing about Sir J. Paxton, it may be as well to say that our experience with it was similar to that of "W." and "J. J.," it was discarded after two or three years' trial. On some soils it is one of the finest Strawberries.

Planting of green crops, such as Coleworts, Savoys, Sprouting Broccoli, &c., has been delayed for want of rain. The ground is thoroughly dry and the heat excessive. On Thursday last the maximum temperature in the shade was 90°, on Friday 91.5°, with an east wind and very dry atmosphere. The ground will be prepared for the crops and the plants will be put out on the first favourable opportunity.

Leeks are seldom planted in this neighbourhood, but in Scotland they are grown everywhere, and are much esteemed in the kitchen. Cottage gardeners take a pride in growing fine Leeks, and often eclipse the professional gardeners at the autumn exhibitions with them. Leeks are very gross feeders, they delight in rich semi-decomposed pig manure, and this the cottager can sometimes supply when the professional gardener cannot. The Leeks are planted in trenches, or rather deep drills, about 15 inches apart and 9 inches between the plants.

Lettuce, Radish, and other small salads must not only be sown in a shady position, but they must be also well watered. Endives should be sown at once if the ground should be moistened with rain. It is splendid weather for harvesting crops. The autumn-sown Onions are a fine crop, they are nearly ready for lifting; as soon as they are quite ripe they will be pulled up and laid on the ground to dry. The weeds do not grow much, but where they are growing they should be hoed up and removed to prevent the seeds from growing again. Weeds seed more readily now than at any other season of the year.

### PINES.

The very hot weather is ripening the Queens very rapidly. We shall be glad to have them all cut, as the suckers are very strong and ought to be potted at once. It is seldom possible in ordinary establishments to pot strong suckers early in June, repot them again the same season, and have fruit ripe from those plants in June and July the following season; given strong suckers a good house well heated with plenty of room for the plants, and it can be done as easily as growing Scarlet Geraniums, but where a succession of fruit is kept up all the houses are full and there is no room for the suckers. Our own are grown in a very small lean-to house which is not adequate to their full development; but they cannot even be put into that house until the succession plants are moved into the fruiting house, and even though the first fruits are ripe, say in June, the latest cannot usually be cut until July or even the first week in August.

Succession plants are in their fruiting pots, and these are quite filled with roots when they are removed to the fruiting house. But little bottom heat will be necessary, and plenty of air must be given to them. They require a good deal of water at this season, and it is necessary to look over the plants twice a week. They have nearly all been potted in 11-inch pots. The tan in the bed has sunk considerably, but it is not safe to add much fresh to it at this season, as the bottom heat will rise from this cause alone to 120°. Newly-potted plants might be plunged to half the depth of the pots in this without injury, but where the roots are matted round the sides and the bottom of the pots such a heat would kill them and ruin the plants. If it was thought better to turn the tan and mix it with fresh and the heat became violent, the pots might be placed on the surface until the temperature of the bed fell to 85° or 90°, when the pots might be plunged.

### PEACH HOUSES.

Our trees in pots take large quantities of water at this season,

and a few hours' neglect may ruin the crops of fruit. When the trees are planted out in a border where the roots can run where they like, there is no danger of the trees being injured by drought if ordinary precautions are used. When the trees are watered it must not be applied in dribbles, but a thorough soaking should be given so that the water may reach the bottom of the border. Before applying the water some rich manure should be spread over the surface, the nutritive properties of which are washed down with the waterings. This is preferred to mixing the water with manure and applying it in that way.

Instructions have been repeatedly given to thin-out all young wood not required for fruiting next year, and to ensure the proper ripening of the present crop the trees must be thoroughly syringed night and morning up to the time the first fruits become soft when taken in the hand. At this time there should be no trace of red spider or thrips, because syringing must be withheld and the pests would be left in undisturbed enjoyment of a rich pasture ground for the next six weeks.

Early houses from which all the fruit has been gathered should have the top lights, if convenient, removed, or at least all the ventilators ought to be opened to their greatest extent night and day, and the trees ought to be quite free from all insect pests. Thrips and the Peach aphid may be destroyed by fumigating; but red spider will only yield to thoroughly washing the leaves with the garden engine.

### GREENHOUSE AND CONSERVATORY.

The season is now drawing near when the Dutch bulbs must be ordered for next season. Some of the more energetic members of the trade are already sending in their lists, and it is certainly good policy to send in the orders in good time. Hyacinths are the most favourite bulbs, and almost everybody, whether they have a garden or not, contrive to grow some. It is not worth while here to give a list of the best sorts, nor under ordinary circumstances is it best to order the bulbs by name. Any respectable dealers if they received an order for so many dozens at so much, would be better able to select than the buyer would, and at a less rate. The word respectable dealers is used advisedly, as there are some who advertise roots which they recommend at a price for which the best roots cannot be obtained in Holland. Having exhibited Hyacinths successfully for many years, some of the Dutch growers send their lists here, and some of the sorts are certainly cheap enough, but they are sorts that will not do for us, and the trade know them; but comparing the prices of the best sorts that are grown in England with the English lists, there is but little difference. The soil ought to be prepared by this time, and laid up in a heap until it is time to pot the bulbs. Good turfy loam, leaf mould, and cow manure in nearly equal proportions is a good compost, to this must be added a little silver sand. Tulips are next to the Hyacinth in popularity, and they have a fine effect when arranged with the other plants. We grow the Hyacinths one in a 6-inch, and the Tulips three in the same sized pot. Stable manure is used instead of cow manure. Polyanthus Narcissus are very much admired by some, and they are potted and treated similar to the Tulips.

All the stage Pelargoniums have been turned out of doors. Very little water is given to the plants, and in a few days when the wood is sufficiently ripe the plants will be cut down. When it is desirable to obtain a succession of bloom the plants must be cut at different times, the bloom will then last from May to the middle of July, but we always have the best bloom about the middle of June. If it is intended to put in any cuttings this ought to be done when the plants are cut down. They ought to be potted in light sandy soil in small pots. If it is intended to propagate a quantity a dozen cuttings may be planted in a 5-inch pot, but when there are only a few choice sorts it is better to place one cutting in the centre of a small pot; the pots should then be placed on the stage of the greenhouse, and water ought not to be applied too liberally. Zonal Pelargoniums of all the sections make a very fine display, and continue much longer in beauty than the stage or fancy sorts.—J. DOUGLAS.

## TRADE CATALOGUE RECEIVED.

Little & Ballantyne, Carlisle.—*Catalogue of Bulbs, &c.*

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

THORNTON HEATH. July 21st and 22nd, and September 1st and 2nd. Mr. W. Baines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.

TWEKESBURY. July 25th. Mr. P. Moore and Mr. H. J. Cochrane, Hon. Secs. WREXHAM. July 25th. Mr. J. B. Shirley, Hon. Sec.

HUNTINGDON. July 26th. Mr. J. Dille, Market Place, Sec.

HEADINGLEY. July 26th and 27th. Mr. T. Atkinson, Barleywood, Headingley, Leeds, Sec.

ABERDEEN (Royal Horticultural Society). July 26th, 27th, and 28th. Mr. Archibald J. Rennie, 123½, Union Street.

BIRMINGHAM. July 29th. Messrs. C. Jessop & E. Rawnsley, Hon. Secs.

**SALTAIRE.** July 29th. Mr. G. A. White, Hon. Sec.  
**KILSEY (Flowers).** August 1st. Mr. C. E. Bracebridge, Sec.  
**HEWORTH (Horticultural).** August 2nd. Mr. B. H. Felton, Hon. Sec.  
**BAWNTON (ROSENDALE).** August 4th and 5th. Mr. M. J. Lonsdale, Sec.  
**SOUTHAMPTON.** August 5th and 7th. Mr. C. S. Fudge, 39, York Street, Sec.  
**FINEDON.** August 7th. Mr. G. C. Mann, Sec.  
**TAUNTON DEANE.** August 10th. Mr. F. H. Woodforde, M.D., and Mr. Clement Smith, Hon. Secs.  
**FILEY.** August 11th. Mr. Walter Fisher, Hon. Sec.  
**OTLEY.** August 12th. Mr. Alfred Suttle, Hon. Sec.  
**CLAY CROSS.** August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec.  
**WESTON-SUPER-MARE.** August 15th and 16th. Mr. W. B. Frampton, Sec.  
**PRESTON.** August 16th and 17th. Mr. W. Troughton, Hon. Sec.  
**SHERWSBURY.** August 16th and 17th. Admitt & Naunton, Hon. Secs.  
**LEDBURY.** August 17th. Mr. J. B. Masefield, Hon. Sec.  
**NORTON, NEAR STOCKTON-ON-TEES.** August 18th. Mr. C. Turner, Sec.  
**MIRFIELD.** August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.  
**CALNE (Wilts).** August 22nd. Mr. H. Blackford, Sec.  
**NEWBURY.** August 22nd. Mr. H. Seymour, Hon. Sec.  
**DORSET COUNTY.** August 23rd (at Dorchester). Mr. A. Pope and Mr. C. Parsons, Secs.  
**CHEPSTOW.** August 23rd. Mr. B. Thorn, Hon. Sec.  
**CARSHALTON, WALLINGTON, AND BEDDINGTON.** August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.  
**LARGO AND FAIRLIE.** August 25th. Mr. D. G. Glen, Hon. Sec.  
**SEATON BURN.** August 26th. Mr. B. Richardson and Mr. W. Elliott, Secs.  
**ISLE OF THANET (MARGATE).** August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.  
**POCKLINGTON.** August 31st. Sec., Mr. J. E. Ross.  
**MONTEBLOSE.** September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.  
**DUNDEE (International).** September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.  
**GLASGOW.** September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.  
**ROYAL CALEDONIAN HORTICULTURAL SOCIETY.** September 13th.  
**KILMARNOCK.** September 14th. Mr. M. Smith, 11, King Street, Sec.  
**IPSWICH.** September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.  
**ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON.** November 8th.  
**NORTHAMPTON (Chrysanthemums).** November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

**BURNING CLAY (Y. S. W.).**—As it is dry and friable, damp it so that the small lumps will cling together; it may be then banked over the fuel. When burned it will render a clayey soil more open to which it is applied.

**NERTERA DEPRESSA (A Lady in Cheshire).**—Directions for its culture are in our last number. You eodde it too much.

**STRAWBERRIES (W. L.).**—All of about average merit. The box may be useful for some purposes, and certainly for conveying fruit. The Strawberries were in perfect condition wrapped in paper and the box filled up with bran.

**PLUMS FOR WALL WITH WEST ASPECT (Connaught Subscriber).**—As you have plenty of Orleans and Victoria we advise you to plant Rivers's Early Prolific, Green Gage, Jefferson, Kirke's, Prince Englebert, Coe's Golden Drop, and Transparent Gage.

**PLUMS DECAYING (S.).**—The ulceration of the Kirke's Plum is caused by a defective supply of sap. More water to the roots and mulching the surface would prevent the decay.

**SEEDLING GERANIUM (J. R. W.).**—The trusses are large, and the colour a peculiar pink. As you say it is of sturdy habit, it will be useful for bedding.

**GOLDEN CHAMPION GRAPE 'CRACKING' (G. R.).**—This is not an uncommon occurrence with this sort. The best treatment is to keep the Vine moderately dry at the roots when the fruit is swelling. Plenty of air ought to be admitted, and the atmosphere of the house should also be rather dry.

**ROSE LEAVES MOTILED (P. B. C.).**—We believe that the fault lies in the roots; sour undrained soil would cause it, or it might be from insufficient nourishment. If you lift the Rose in the autumn and replant in rich soil it will be all right. The spotting might be caused by mildew, but there is not any trace of the pest now.

**GRAPES DISEASED (W. A. B.).**—Two of the berries are attacked by what gardeners call "the spot." It is an ulceration caused by a deficient supply of sap. Watering the roots with very weak tepid manure water will prevent it. The other berry is rusted, and the brown roughness is believed to be caused by exposure to a draught of cold air.

**VINE LEAVES BROWNED (F. F.).**—The roots need watering abundantly and regularly during this hot dry weather.

**VINES OVER-LUXURIANT (Somerset).**—The leaf sent is very fine, and had your Vines sufficient space to grow in they would produce excellent Grapes. The roots have passed through the boundary wall, and have penetrated the subsoil. We should not hesitate to cut a trench by the side of the wall, severing many of the roots, and at the same time we should remove the surface soil from the border, just baring but not injuring the roots, and replacing with the charred soil you speak of, and surfacing it with a layer of stable manure. This may be done when the foliage turns yellow in the

autumn. What you want are surface—not subsoil—roots, then will your Vines be short-jointed and fruitful. Another plan which would produce Grapes would be to encourage the best Vine to grow and eventually occupy the entire house, removing the others by degrees as the permanent Vine makes fresh canes.

**GRAPES NOT COLOURING (J. P. Bath).**—Overcropping is the prime source of deficient colouring. The heavier is the crop and the drier the season the more support must be given to the roots. See an article in another column. Even now a soaking of tepid manure water may be of benefit to the crop.

**POTATOES MATURING (Lindum).**—As you say the "skins are set" we should certainly take up the early crop, storing the tubers thinly in a cool place. If left in the ground and heavy rains succeed the probability is that they would grow again—spertuberate, and the produce would be deteriorated in value. Take up the crop at once.

**INCREASING SEMPERVIVUM TABULEFORME (Tulse Hill).**—Plants are readily raised from seed, which should be sown thinly in gentle heat in the spring, or at the present time in a cold frame. The pots should be plunged, and shaded so that the surface of the soil can be kept regularly moist without frequently watering it; the seedlings to be potted in small pots when they are large enough to handle, and be grown in a frame or greenhouse. Plants may also be raised from leaves, slipping them off carefully and laying them round a pot of very light sandy soil, very slightly pressing the base of each leaf into the sand. These, if kept gently moist, will form incipient buds, eventually becoming plants.

**NEGRO LARGO FIG (A Nobleman's Gardener).**—This is a very fine Fig, and is well adapted for cultivation in pots. The fruit is large, nearly 4 inches long, black in colour, juicy, and refreshing. Mr. Fleming of Cliveden, who is known to be an excellent cultivator, considers this the best of all Figs for growing in pots. You may safely include it in your collection.

**YORK AND LANCASTER ROSE (Volunteer).**—This distinct old Rose will succeed well when budded on the Briar, but we should advise the tongueing or notching of the shoots of your dwarf plant, and pegging them in the ground in the autumn, when you would soon increase your stock of it. It is an acquisition for mixed borders and for shrubberies, growing and flowering freely in almost any kind of soil.

**PLANTS FOR ROCKERY (Nemo and others).**—We will reply in our next number.

**ORANGE FUNGUS ON ROSES (W. A. W.).**—No one can tell where the spores come from which give birth to this fungus. It is most effectually removed by sponging the leaves with a solution of 2 ozs. of blue vitriol (sulphate of copper) in two gallons of water. Dissolve the vitriol in a little boiling water, and then mix it with the cold.

**INSECTS ON APPLE TREES (M. J. T.).**—If by "lice" you mean the green fly, as the trees are small you may syringe them with tobacco water. Not knowing any of the circumstances we cannot suggest the probable cause.

**INSECTS IN PELARGONIUM SOIL (J. H.).**—We could not detect one in the sample. As they are small and white they are probably the common *Acarus*, and are harmless, living on decayed vegetable substances.

**NAMES OF PLANTS (S. C. A.).**—*Alstromeria pulchella*. (R. L. D.).—1, *Thalictrum flavum*; 2, *Campanula latifolia*. (W. T.).—1, *Veronica Teucrium* var.; 2, *Nepeta Musini*; 3, *Philadelphus coronarius*; 4, *Erysimum* sp. (F. L.).—*Polypodium Billardieri*. (W. P.).—We cannot name florists' varieties of flowers, nor Strawberry varieties, they are far too numerous and too nearly resembling others. (Penally).—*Lycopodium helveticum*.

### POULTRY, BEE, AND PIGEON CHRONICLE.

#### RAILWAY JOURNEYS.

THERE can be no possible doubt that poultry exhibitions could only have been very local without the aid of train service, and it is as equally certain that poultry shows must have from time to time very greatly added to the revenues of railway companies in their parcels traffic. Nevertheless, the charges for conveying a basket from one place to another would seem rather to increase than lessen, while the carelessness often displayed in forwarding baskets and knocking them about at stations is well known to all. There are some of the companies in the south of England which will return baskets free from a show on their own line of railway provided they remain the property of the exhibitor; among them the principal are the London, Brighton, and South Coast, the London and South-Western, and the South Devon, Cornwall, and West Cornwall Railways. Now we cannot be sufficiently grateful to these companies, and always feel inclined to make use of these lines of rail when possible, even if we send our birds a little out of the way to do so. We have exhibited in every county in England, and consequently have had to pay the charges of all lines, but we find no one of them so expensive as the South-Eastern. It is a well-known fact that the north-country poultry-fanciers manage their railway carriage better than the southern. It is surprising to find how far they make a shilling go, and we have frequently heard Lancashire and Yorkshire fanciers say that the lines of railway in the south near to London would soon choke them off from exhibiting; and we can well remember hearing a large exhibitor say that it cost him a great deal more to get his baskets from London to the Crystal Palace than it did from Lancashire to London. We should like Mr. Beldon or Mr. Walker to come down south for a few months and stir up the officials at the southern stations, and see what they could do.

We have experienced over and over again the annoyance of birds going wrong and being mis-sent. This, however, is a grievance which can be remedied, for it lies in the power of all exhibitors to do something here. We quite know it is very long



and tedious work getting any compensation, but it has been done, and we have gained it ourselves. It is not the value of the redress so much, however, as it is that we hear from the highest possible authority that the very fact of claiming compensation is so thoroughly seen into and investigated at the head office that all the officials of the district are put, so to speak, on the *qui vive* against the same thing happening again; and although the aggrieved party may apparently recover very little, he in reality benefits the cause greatly by making the disturbance. We would urge on all, therefore, who experience loss by wilful carelessness on the part of any company to write at once to the manager of that company and have the case thoroughly sifted to the bottom, which can and will be done. This mode of procedure will do the poultry fancy 50 per cent. more good than the mere airing of troubles and grievances of the kind in the poultry newspapers.

We believe many exhibitors leave the dispatch of their baskets to the last train which can possibly bring them to the show ground in time. This is a most foolish plan, for at junctions, or at places where the birds have to be changed from one company's line to another, a delay is certain to follow, and the birds consequently often arrive "too late for competition." We quite believe this need not happen as often as it does, but there is no one present generally to urge the importance of the birds being forwarded by any particular trains. The other day when we were talking of poultry clubs and the good they might do, some one said that they would be the means of getting the companies to reduce their rates and convey the baskets cheaper. We do not believe any amount of clubs would perform this, and we said so. The utmost they could do would be to have the birds returned free on some lines, and these those companies which we named will generally do if the secretary will point out that it will be to their advantage; but there is a point in which we think a poultry club could really be of value, and that is in appointing some responsible person to wait at the chief junctions on the eve of any important poultry show. This person need not be a fancier; any man of the locality who can be depended upon would be able to do the work, for he would only have to watch the trains coming in and see that all the birds which had to be changed were carefully handled and speedily forwarded. The club funds would "pay the piper," and fanciers would feel greater ease and comfort for the safe and due arrival of their birds. Not only are birds at stations allowed to stand about on draughty platforms, but they often get terribly knocked about as well. We could quote case after case but have not space, for only the other day at Portsmouth we saw some very rough handling, and such a person as we desire at the stations would greatly prevent this. We speak with certainty of the success of some such plan, for a show in which we are deeply interested, at its own expense sends, or arranges for, men to be at the two principal junctions near at hand, and this exhibition finds it not only of benefit to its patrons but to itself as well, for this proceeding is the means of getting the birds in the show ground earlier, and so the labour is not so heavy in the late hours of night. Even without a poultry club some such arrangement as we advocate could thus be made, and we really think the few shillings expended would be money well laid out by many committees, more especially by those who are connected with shows held on loop lines or in out-of-the-way places.

While writing on the railway journeys of poultry we would ask, Who pockets the shillings and sixpences for conveying birds to and from the place of show? After heavy carriage is paid and the birds are properly booked we consider it simply monstrous to charge at all for moving the birds to the show ground; but when it comes to paying 1s. a basket for having one removed just across the street, as occurred the other day at a Devonshire show, we call it nothing short of robbery. We would ask exhibitors to see into this, for it seems to be becoming a general plan, and we would urge on committees to arrange differently for their own interests. The cases we could quote of baskets being paid at one end and charged for at the other are legion, as, too, are cases of baskets costing one sum to go to an exhibition, and perhaps double the amount when they return; but we would only once more urge upon those who are so wronged to apply at once to the chief office of the company and have the matter looked into, for by this means a stir is made among the aggressors, and they are more on their guard in future.

This is a subject on which a great deal more might be said, but in leaving it for the present we would beg exhibitors to see, when possible, that their baskets are not placed in the vans too near to open-mouthed dogs also journeying to the same goal. Over and over again this takes place, and over and over again a valuable bird is killed. Mr. Pares lost his hero this way, and so have many others. In no way advocating the muzzling of dogs when on their journeys, we would only suggest that in trains where many packages of dogs and poultry are expected the secretary should write to the starting place of such trains and state that a heavy load may be expected, so that proper vans may be attached for the dogs and poultry. This may some-

times remove the difficulty of their having to travel together and run the risk of death or wounds.—W.

## TRURO POULTRY SHOW.

THIS Exhibition was held in a large marquee on the town green, and was apparently a success in every way. The officials were courteous, and Mr. Hodson's awards in most cases satisfactory.

The Coloured *Dorkings* mustered a dozen pens, and we quite approved of the winners. In the next *Dorking* class we could not find the first-prize birds in our catalogue, but learned they belonged to Lady Vivian. They were a fair pen of Whites. *Spanish* were excellent, and here came the cup for the best pen in the Show. We fancy one or two of the cocks here would have been passed over by some of our judges, as we think the scissors had been at work on the back of the comb. In *Cochins*, Partridge, the first-prize pen were a showy pair and good in colour, while an admirable pen of Whites won in the next class. Mr. Whitehead's second were also good, but he wants a better hen. Mr. Woodgate's four *Cochin* pens were all empty, a mistake having occurred with his labels. *Minorcas* were not so good as we expected to find; the first were Blacks, but of fair merit only. In *Game* we could have found several good single birds, but they were badly mated, and a good hen would have a poor cock, or *vice versa*, notably so the first Brown Reds, while in *Duckwings* the cock was superior to the hen. A good pen of *Malay* chickens, large and bright in feather, won first, and we were glad to see the young stock to the front. *Brahmas* only mustered three pens, a good pen of Lights being first. In *Hamburgs* we liked the first Silver-pencilled, for the hen was clear in markings, and the cock's tail good. Silvers of good quality also won in the Spangled variety. *Polands* were most noticeable for the great merit of the White-crested Blacks. It was very near between the first two pens, and we are not at all sure that we did not like the second-prize pen best, for the hen in this pen was simply admirable; third went to fair Silvers. *Game Bantams* were moderate, a good pen of Black Reds securing the first prize, while in the next class good Blacks were first and second. The Variety class was interesting; but the French, which won most of the prizes, should have had a class to themselves. We thought the very highly commended Silky chickens might have been in the list; good Black *Hamburgs* were first. A fine Black Red won in single cocks; he had much style and form about him. The *Ducks* were moderate; a large pair of Rouen ducklings secured first in their class.

*Pigeons* brought very small classes. The cup went to Carriers with fine head properties, and we thought the awards good. In *Pouters* Blues were first, with very fair length of feather. Two fair *Fans* had the class and prizes together, while *Jacobins* nearly did the same. In this class a moderate pair of Reds secured first place. Blue *Dragoons* won first, closely pressed by the second-prize pen, which were also Blues: while in the Variety class *Owls* were first and third, the former White African and the second Silver; second going to *Antwerps* of good quality; pen 200 (Tyerman) were fair *Trumpeters*.

We furnish the list of prizes below:—

POULTRY.—*DORKINGS*.—Coloured.—1 and 2, E. Burton. 3, H. Slade. Any other variety.—1, Lady Vivian. 2, J. H. Nicholls. *SPANISH*.—Cup and 2, J. Boulton. *GAME*.—Black Red.—1, E. Williams, jun. 2, J. Cardell. 3, G. Dash. Brown Red.—1, J. Cardell. 2, H. Browne. 3, C. E. Pope. Any other variety.—1, T. J. Lobb. 2, H. Feast. 3, H. Browne. *COCHINS*.—Partridge and Brown.—1, G. Lias. 2, J. H. Nicholls. 3, A. C. Travers. Any other variety.—1, Rev. G. Watson. 2, J. N. Whitehead. 3, H. Feast. *vhc*, S. R. Harris. *MINORCAS*.—1, Rev. G. Watson. 2, J. H. Nicholls. 3, J. Thomas. *MALAYS*.—1, W. T. Lecher. 2, J. Pomroy. 3, H. Feast. *BAHRMAS*.—1, Mrs. J. F. Holmes. 2, J. H. Nicholls. 3, W. Burns. *HAMBURGS*.—Gold and Silver-pencilled.—1, N. Barter. 2, J. R. Herwood. 3, J. Knight, jun. Gold and Silver-spangled.—1, H. Feast. 2, Mrs. S. R. Harris. 3, N. Barter. *POLANDS*.—1, G. Lias. 2, T. Norwood. 3, Mrs. S. R. Harris. *BANTAMS*.—Game.—1, R. Y. Ardagh. 2 and 3, T. V. Bice. Any other variety.—1, F. Temple. 2, J. Mayo. 3, J. Driscoll. *vhc*, R. S. S. Woodgate. ANY OTHER VARIETY.—1, H. Feast. 2, J. H. Nicholls. 3, W. Hamlyn. ANY VARIETY.—Cock.—1, E. C. Pope. 2, J. Bond. 3, J. Beard, jun. *vhc*, J. Westacott. SELLING CLASS.—1, J. Honey. 2, E. Macey. 3, W. Hamlyn. *DUCKS*.—Aylesbury.—1 and 2, S. R. Harris. Rouen.—1, J. H. Hoit. 2, W. H. Compton.

*PIGEONS*.—CARRIERS.—1, Cud, and *vhc*, E. Burton. Cock.—1 and 2, E. Burton. *POUTERS*.—1, Mrs. J. F. Holmes. 2, J. Broad *vhc*, F. Beck. *TUMBLERS*.—1, H. Yardley. 2, F. Beck. *FANTAILS*.—1, J. L. Smith. 2, H. Yardley. *JACOBIANS*.—1, J. L. Smith. 2, T. Hendra. *DRAGONS*.—1, H. Yardley. 2, E. Burton. *TURBETS*.—1, J. L. Smith. 2, Mrs. Hutchinson. *BARBS*.—1, H. Yardley. 2, E. Burton. ANY OTHER VARIETY.—1, F. Beck. 2, R. T. Harris. 3, J. Lamacraft.

## SNAITH SHOW OF POULTRY, &c.

THE annual Show was held at Snaith on the 13th inst. The grounds in which this Show is held are unsurpassed for such a purpose, the long spreading forest trees proving a most welcome shade from the scorching rays of the sun. For the poultry, &c., a capital marquee was provided, and Turner's pens were used. With a fair kind of schedule the Show improves from year to year in both entries and quality. *Game* headed the list, but with the exception of the first-prize Brown Red and the second-prize hen they were poor. *Spanish* very good, the cup going to the first, as the best pen in the Show. In *Cochins* first were Buff and second White. *Hamburgs* were very good, the Gold-



and that it is useless to transfer them. Some crossings would, perhaps, be useful."

I will quote another paragraph from the letter, which closely agrees with Mr. Pettigrew's teaching. "The great question of the day in our Switzerland, as in France, Germany, and America, is that of mobilism or fixism [the systems of fixed or moveable combs]. Mobilism has the incontestable advantages of offering facility for theoretical experiment and the formation of artificial swarms; but is it superior or even equal to fixism with regard to the production of honey? I doubt it a little, because bees do not like to be disturbed in their labours, which always occurs more or less when moveable frames are used."—J. H. ELDRIDGE, *Norwich*.

### SEARCHING FOR QUEENS.

"In uniting swarms can Mr. Pettigrew or some other correspondent suggest a method of disposing of the old queen other than putting one's hand into a crawling mass of bees to seek and pick her out, which is anything but a pleasing process to contemplate, especially to any timid person?"—THOMAS WATTS."

MR. WATTS has done well to put this question, which is of considerable importance in the interests of practical and profitable management of bees; and it is to be hoped that some one of our readers may be able to suggest a simpler and better method of ridding bees or hives of their old queens than the one I have followed and recommended. Many bee-keepers who adopt our way of managing bees inform me that they can do everything I advise but finding the queen in the crawling mass of a driven swarm; and many who have seen me find the queen, and the way in which it is done, have become as expert, clever, and courageous at this work as it is possible for anyone to become. The other day a company of ladies and gentlemen came by arrangement to see bees swarmed artificially; but when I saw the queen and desired them to come near to see her, they would not from sheer timidity. It does require a certain amount of courage and confidence to turn up a hive and look amongst its crawling inmates, and to drive them into an empty hive and peer amongst them till the queen is seen. It requires as much courage to remove bars of comb covered with bees from bar-framers; and many become expert at this.

For the encouragement of all let me say that bees mastered and driven into empty hives are generally very quiet and seldom sting. In the hands of courageous people the work is simple and easily done. To find the queen some apiarians shake the bees out on sheets; but we think this is a very disagreeable roundabout mode of operating. When we have a great many swarms to unite to stocks in autumn possessing young queens, we divide the swarms into three or four lots each by putting them into empty hives. Of course the queen of a swarm can be in one lot only, which settles quietly in a cluster. All the rest speedily discover their loss, and manifest it in a great uproar and tumult; and as soon as the uproar commences the bees are united to the stocks. Then the queens are easily found and destroyed among the bees of the small clusters. As soon as seen they are destroyed, and the bees are given like the rest to the stocks. But our usual mode is to drive all the bees from a honey hive, and if its queen is old to destroy it before they are united to one or two stocks. To us nothing can be more simple or easy than this. We shall be glad if our readers will favour us with their opinions and experiences. Some bee-keepers use puff-ball, some chloroform, in the process of uniting swarms. We shall be pleased if our correspondents ventilate the question fully.—A. PETTIGREW.

### OUR LETTER BOX.

**NEW POULTRY HOUSE (E. W.).**—As you are fortunate enough to speak of space as unlimited, we shall deal accordingly. For a hundred fowls we would have a house 80 feet long by 20 wide, and at least 12 feet high. It should be well lighted both in the roof and at the sides. The door should be in a corner, and the perches (2 feet from the ground) should not be in a line with the door or any other place where there is a draught. The flooring must be of earth well rammed down, and should slant every way to the door to facilitate cleaning. The laying boxes may be against the wall or boarding in a line with the door. There must be a separate house for sitting. The perches should rest on a ledge fastened to the wall at one end, and on moveable tressles the other. This is convenient for moving, and as soon as the fowls are out the perches should be removed and the house cleaned. A heap of dust is a good thing in a house, and it may be kept perfectly sweet and clean. Dust is a fowl's bath. Duck and Geese must not roost with fowls. If they do you will soon have disease. If you have a farmyard let them roost anywhere; if you have not, any place will do. A lean-to, an old calf pen, an unused pigsty, any such place will do for Ducks and Geese. They detest order and cleanliness, and we believe they never thrive so well as when they are permitted to follow their own dirty habits.

**EXHIBITIONS OF HONEY (J. E. B.).**—The best time for an exhibition of honey, &c., is about the beginning of September. The middle of the month is the best time where bees are removed to the moors, for heather yields honey till about the 10th of September. For the encouragement of bee-keeping and bee-culture prizes at small horticultural and agricultural meetings should be offered, 1st, for the greatest results in weight from one stock of bees; 2nd, for best and heaviest swarm of the current season; 3rd, for best super of honeycomb. The first-named deserves a prize of greater value than the other two. A lady in the north of Scotland gives annually a prize for the heaviest first swarm, and there is generally a keen

contest for it. For country exhibitions in England the fewer conditions laid down the better, but it should be understood that the exhibits are to be the natural products of the bees from the flowers of the fields and forests.

**TAKING SUPERS (J. O. W.).**—In taking the super from your old hive at the end of this month, first cut it from the top of the hive by drawing a piece of string or wire between them, raise the super by thin wedges about a quarter of an inch, and leave it so raised for about an hour to enable the bees to lick all the honey from the broken cells. Get the bees from the super into the old hive, and then drive all into an empty hive. As you have no super on the 18-inch hive which you wish to take, drive them, too, about the end of this month into another empty hive, and rapidly feed both into stocks by giving each swarm about 15 lbs. of good sugar boiled in 14 lbs. of water, or mixed at the rate of 1 lb. of sugar with one pint of water, and boiled for two or three minutes. Let each swarm have 2 lbs. of syrup at least every night. From the syrup thus given the bees will rapidly build combs, and not only store up food, but produce a hatch of young brood or bees that will make the stocks strong for winter. For feeding swarms rapidly we have never seen or heard of an instrument equal to a feeding-board, which is simply a floor-board with a dish or trough in it. Our feeding trough holds three quarts of syrup, and can be filled from the outside through a funnel and tube. A large flower-pot saucer let into a board, or placed on it, answers very well if plenty of chips of wood or short straws be placed in it to keep the bees from being drowned. We are glad to learn that you and your friends are gathering information and encouragement from the pages of this Journal, and find yourselves "emerging out of darkness into light." All will be clear and easy to you by-and-by.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				Rain.	
1876.	Baromet- er at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
July.		Dry.	Wet.			Max.	Min.	In sun.		On grass
We. 12	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Th. 13	30.396	64.0	54.2	N.W.	62.9	74.8	47.3	129.0	49.8	—
Fri. 14	29.413	69.7	60.3	N.W.	64.4	86.3	53.0	128.8	49.0	—
Sat. 15	30.411	72.5	65.3	N.W.	67.0	85.7	56.6	111.2	43.2	—
Sun. 16	30.343	77.3	68.6	N.	66.3	92.6	58.3	125.5	53.4	—
Mo. 17	30.343	75.2	62.8	N.E.	67.2	89.4	58.3	124.8	52.4	—
Tu. 18	30.214	87.0	67.9	N.W.	69.4	89.9	62.7	123.6	57.6	—
Tu. 18	30.255	66.6	59.4	N.E.	69.7	81.5	62.7	120.8	48.4	—
Means.	30.353	72.2	62.6		66.8	85.8	55.7	124.1	50.7	0.000

### REMARKS.

- 12th.—Very fine, bright, pleasant day and night.  
 13th.—A brilliant summer day, very hot.  
 14th.—Fine, but rather hazy in the morning; very warm, close, and storm-like in afternoon and early evening, but fine night.  
 15th.—Hazy in morning, very fine all day, but intensely hot—in fact, the hottest day this summer, thermometer reaching 92.6° in shade.  
 16th.—Very fine and very hot, and both feeling close and storm-like, and looking so about 7 p.m.  
 17th.—Another hot day, but towards the evening there was a little movement in the air (which has been very stagnant hitherto in the heat), and the heat became more bearable.  
 18th.—Another very fine day, but the breeze tempered the heat, and so the weather was much more pleasant.  
 Very fine rainless summer week, the air very dry, and the range of temperature considerable. The temperature on the 15th, 92.6°, unusual, but by no means unprecedented.—G. J. SYMONS.

### COVENT GARDEN MARKET.—JULY 19.

THE present hot weather is proving too much for all kinds of soft fruit, and supply is consequently falling off. Prices somewhat higher than last week. Hothouse fruit is lower in consequence of the close of the London season, though best samples of Grapes and Peaches maintain their full value.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	to	5	Mulberries.....	lb.	0	0	0
Apricots.....	box	1	6	1	Nectarines.....	dozen	5	0	21
Cherries.....	lb.	0	6	4	Oranges.....	dozen	6	0	12
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	6	0	80
Currants.....	dozen	3	6	4	Pears, kitchen.....	dozen	0	0	0
Black.....	do.	4	0	5	Dessert.....	dozen	0	0	0
Figs.....	dozen	8	0	10	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	0	0	Plums.....	dozen	0	0	0
Cobs.....	lb.	0	0	0	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	3	0	Raspberries.....	lb.	0	6	1
Grapes, hothouse.....	lb.	1	0	0	Strawberries.....	lb.	0	4	2
Lemons.....	dozen	1	0	6	Walnuts.....	bushel	0	0	0
Melons.....	each	2	0	8	ditto.....	dozen	0	0	0

### VEGETABLES.

		s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	dozen	4	0	to	6	Leeks.....	bunch	0	4	to	0	0
Asparagus.....	dozen	1	6	0	0	Mushrooms.....	pottle	1	0	2	0	
French.....	bundle	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	0	
Beans, Kidney.....	dozen	0	6	1	0	Onions.....	bushel	2	0	5	0	
Beet, Red.....	dozen	1	6	8	0	pickling.....	quart	0	0	0	0	
Broccoli.....	bundle	0	9	1	0	Parsley... doz. bunches	2	0	4	0		
Brussels Sprouts.....	sieve	0	0	0	0	Parsnips.....	dozen	0	0	0	0	
Cabbage.....	dozen	1	0	2	0	Past.....	quart	0	3	1	0	
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	8	0	
Capsicums.....	dozen	1	6	2	0	Kidney.....	do.	3	0	8	0	
Cauliflower.....	dozen	1	0	4	0	Radishes... doz. bunches	1	0	1	6		
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	8	0	9	
Coleworts... doz. bunches	2	0	4	0	Salsafy.....	bundle	0	9	1	0		
Cucumbers.....	each	0	4	1	0	Scorzonera.....	bundle	1	0	0	0	
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0	
Fennel.....	bunch	0	3	0	0	Shallots.....	lb.	0	8	0	6	
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	1	6	2	6	
Herbs.....	bunch	0	3	0	0	Tomatoes.....	dozen	1	6	3	0	
Horseradish.....	bundle	4	0	0	0	Turnips.....	bunch	0	4	0	6	
Lettuce.....	dozen	0	6	1	0	Vegetable Marrows.....	do.	0	2	0	3	
French Cabbage.....	dozen	1	0	0	0							

## WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 27—AUG. 2, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.		m.	s.	
27	TR	Aberdeen Show.	74.9	50.7	62.8	4	19	7	54	0	28	10	8	6	6	14	208
28	F	Queckett (Microscopical) Club Anniversary at 8 P.M.	76.4	50.8	63.6	4	20	7	52	1	46	10	24	7	6	13	209
29	S	Brighouse and Salsaire Shows.	75.5	49.9	62.7	4	22	7	51	3	3	10	44	8	6	11	210
30	SUN	7 SUNDAY AFTER TRINITY.	75.2	50.2	62.7	4	23	7	49	3	17	11	12	9	6	9	211
31	M		74.9	50.0	62.4	4	25	7	43	5	24	11	50	10	6	6	212
1	TU	Kilsby Show.	75.6	50.4	60.3	4	46	7	46	6	19	morn.		11	6	0	213
2	W	Heworth Show.	75.3	50.9	63.1	4	27	7	44	7	1	0	41	12	5	58	214

From observations taken near London during forty-three years, the average day temperature of the week is 75.4°; and its night temperature 50.4°.

## PANSIES FROM SEED.



FOR general decorative purposes a more useful flower or a more lasting one is not to be found than the Pansy. Its beauty is unquestionable; it does not grow rampant, but takes up little room. It is available for arrangement in a multiplicity of forms—in single patches, in beds, or in lines in borders. The colours planted in rows to harmonise, in a circular or other shaped bed will be found to look well. I do not mean the self-

coloured varieties in white, yellow, blue, and black, but the show kinds in self, yellow, and white grounds; whilst the fancy varieties make splendid beds of many shades of colour.

Setting aside the harmony sought by an arrangement of distinct colours, I consider a mixed bed of Pansies in which there is such a blending of colour as to produce no decisive or prevailing hue most attractive. The flowers are so varied, and yet each plant maintains its individuality, and a rich mass of floral beauty is provided calculated to fill the eye at a distance. In a bed of mixed Pansies we have beauty of form, extreme diversification, and richly-varied colours. The eye has no greater love than for colour, especially the colours of nature: hence the desire of producing coloured representations of objects exciting our interest and admiration, and yet we are not to abstain from the study of a subject because it presents variable phenomena. Of this class are seedling florists' flowers, especially Pansies, which are so sportive that many varieties will come from one pod of seed; so that if seed is had from a few varieties there is no lack in colour and shades, which in form, substance, and marking cannot, if good seed be had, fail to afford pleasure to all lovers of plants. To those who care to examine a flower for its beauty I know of none in which it is to be found more abundantly than the Pansy. And when we consider that for the same money as would purchase a good variety as much seed may be purchased as will afford plants in variety to stock a good breadth of ground, I am surprised that this and kindred subjects are not more generally raised from seed, most persons being much more proud of a collection of plants of their own raising than of a stock wholly produced by others. Besides Pansies from cuttings when apparently growing satisfactorily suddenly droop, become paralysed, and die; but with plants from seed this liability of the Pansy to sudden collapse is reduced to a minimum, and in not too rich soil is altogether avoided.

The raising of the Pansy from seed is a very simple process. I usually sow about the middle of July to early in August in light moderately rich soil on a sheltered border in rows about 3 inches apart, scattering the seeds in the drills rather thinly, covering lightly with fine soil, and keeping moist to insure the certain germination of the seeds. By the end of September the plants will be fit to put out in beds, which should be deeply dug and liberally manured, a well-ameliorated soil being of more

consequence than a rich one. I allow a distance of a foot between the rows, and of 9 inches in the rows from plant to plant. Plants from the late July or early August sowing will commence flowering with the mild weather of spring and continue up to July or August.

A summer bloom is best had by seeds sown the first fortnight of September in a warm corner at the bottom of a wall or other shelter, transplanting to the flowering quarter in spring. For a late summer and autumn bloom seed should be sown in March in boxes or pans, affording a little heat until the plants appear, when all the air possible should be admitted, and after being hardened-off planted out where intended to bloom.

An open situation is the only one suitable; but if the situation be such as to afford shade in the middle of the day without being overhung by trees, such a position is desirable in dry hot weather; and though a free soil is requisite with freedom from stagnant moisture no plant is more grateful for coolness and moisture than this.

To obtain a succession of bloom cut with discretion a portion of the branches near the stem, and in their stead will arise young shoots. This must be done before the plants are much exhausted, commencing as soon as the plants are well established in size, and if care be taken to occasionally pick off the flower stems as the flowers fade the continuance and superiority of the bloom will be greatly furthered. If seed be wanted it will not, of course, answer to remove the pods; but I would not advise anyone to save seed except from the best flowers and first-class varieties, and then, unless cross-breeding be resorted to, little improvement can be looked for, as the climax of perfection is about attained by the usual process of selection of seed from the best flowers of first-class varieties.

Now, in crossing a few hints may be found serviceable. Select the very best flowers only for seeding, and the same in the flowers from whence the pollen is to be taken, taking care that for white grounds both parents are of one shade in the ground colour, yellow grounds the same, also selfs. When the seed-bearing flower is rather less than half expanded remove the lower petal of the flower altogether, which will keep it from being fertilised by its own pollen, and from the male flower the stigma may be removed, which will assist the development of the stamens, allowing all the petals to remain. When the stigma is in a fitting condition for impregnation—noticeable by its concavity and viscid appearance—search for ripe pollen, which will be found embedded in the hollow curve of the lower petal near the extreme point. Pulling off this petal very gently take it to the intended seed-bearer, and gently from the base guide the apex of the stigma all along the hollow of the pollen-containing petal, in which way it is hardly possible to fail in filling the mouth of the pistil with ripened pollen. If the stigma be in proper condition the swelling of the ovary will witness the completion of fertilisation. The pollen may be taken from the extracted petal and applied to the stigma with a small camel-hair pencil. I do not think it needful to remove the stamens from the seed-bearer to prevent self-impreg-



nation, nor to guard the stigma from fertilisation by insects, though it may not be undesirable to do so.

I know not but everybody is aware of the chasteness of Pansies in a cut state. Done up in little bunches of half a dozen, and surrounded with leaves of *Viola pedata* or the Pheasant's Foot *Pelargonium* (*P. denticulatum*), they are really charming, it being astonishing what a quantity and continuance of flowers these plants afford when the flowers are picked as they expand and the plants kept from seeding.

I certainly advise everyone with but a few square yards of ground to invest in a packet of seed of show and another of fancy (Belgian or French) Pansy, convinced that no plants will for a similar expenditure afford such a profusion of bloom for so lengthened a period in so much variety, and of enjoyment to the purchaser.—G. ABBEY.

### PROTECTING FRUIT.

IN the spring time there is generally a great deal of labour and expense devoted to the protection of fruit blossom from frost and cold winds, but in many instances there is quite as much attention required to protect the fruit when ripe and ripening from birds and other destroyers. About this time, and further on in the season as fruit becomes ripe, it is surprising how very quickly a large quantity will be destroyed if not securely protected. Market gardeners do not generally suffer so much loss in this way as their private friends do. The productions of the former are never allowed to hang long after they are fit for eating; and as most market gardens are in the neighbourhood of towns, birds and other fruit pests are not so plentiful as they are in well-wooded country localities. Small outdoor fruits, such as Strawberries, Currants, and Gooseberries, are much eaten by birds when they have the slightest access to them.

As protection for these nothing better can be used than herring nets. In well-arranged gardens permanent provision is made for putting on these when required. This generally consists in driving stubs 4 or 5 feet long into the ground about 10 or 12 feet apart, and fixing long rails on the top so as to reach from post to post. When the fruit is gaining maturity the nets are stretched over the top of these rafters and fixed around the edge with wooden pegs. When any fruit is wanted it is only necessary to pull out a few of the pegs, lift the net, and walk underneath. In many instances the nets are allowed to rest on the tops of the bushes; but this is a bad plan, as the point shoots are not only injured, but with such as Red Currants the birds can often sit on the net and pick the fruit through. Besides, when fruit has to be gathered the whole net has to be removed and again replaced. Strawberries are often protected in the same way, the net being allowed to lie on the top of the leaves when it has to be dragged about before any fruit can be obtained. Fixing rails may seem rather expensive at first, but it is the most satisfactory way in the end. If the rails are put up when a young plantation of such as Gooseberries or Currants are made they will last as long as the bushes remain in a prime-bearing state, and do not interfere in the least with the growth or anything which may require doing about the bushes. "Herding," or scaring the birds from small fruits, is a very tedious operation, of which we had a good deal of experience at one time; but it is only where there are plenty of "hands" that this can be done, and then it is not so efficient as the nets.

Cherries are generally very subject to the attack of birds, and as this fruit is mostly grown on walls netting must again be resorted to. The net should be of sufficient width to reach from the top to the bottom of the wall. In fixing it should be nailed along the top of the wall, and allowed to hang over. There are two very good ways of holding the net a distance from the tree. The one is to drive long stakes into the ground 4 or 5 feet apart and about 1½ foot from the wall, and peg the net down the outside of these; the other, but not such a convenient way, is to fix pieces of stick here and there in the face of the wall with a forked projecting end about a foot from the wall, and let the net rest against this.

Peaches, Nectarines, Apricots, Plums, and the finer kinds of Pears are not only eaten by birds, but wasps and large flies do much harm to the ripe fruit. To prevent this very closely meshed netting has to be used. This should be put on in the same way as the other nets on the walls; but this kind of netting should never be used until the fruit is all but ripe, as it shades from the sun very much, and to do this while the fruit is not nearly ripe the flavour is very liable

to be deficient. Wasps are often more destructive on stone fruits than any other kind of pest. Like birds, they are only plentiful where there are many woods. Any trees on which there are only a few fruits may have them protected by placing a small piece of netting over each fruit. Isolated standard trees should be surrounded with a few stakes and wrapped round with netting. In all cases where permanent supports can be fixed this should be done, as they are not only convenient and useful when the fruit is ripening, but in spring when the blossom requires to be sheltered they are of great assistance.

Tender indoor fruits, especially Grapes and Peaches, are greedily devoured by wasps, and sometimes by birds. The very fine-meshed netting or tiffany should be nailed over all the ventilators which are opened, as in the outside. This is the best plan which can be adopted. Bunches of Grapes are sometimes tied in paper bags. In this the fruit cannot be seen, and unless the bag is taken off every other day, which spoils the bloom, decay may take place before it is noticed.

Bottles of sour beer are often hung up amongst Grapes. A few wasps and flies may find their way into them, but when once they are admitted into the vinery the most of them seem to prefer the fruit.—J. MUIR.

### IVY.

IVY is one of the most common, yet certainly the most useful, of all climbing plants. Its hardness, its evergreen character, its free growth, its close dense habit, its glossy foliage, its chaste venation, and the effective variegation of some of the varieties being recommended qualities of the highest order. Ivy is applicable for many purposes of shelter and modes of decoration. Used as a covering for screens and rustic fences it affords perfect shelter against cutting winds, and also from sun; and as screens for the drawing-room it breaks alike draughts of heat or cold without any material injury accruing to itself. For covering walls, buildings, or ruins it is well known to be the best of all plants, and instead of making such walls and buildings wet it has really the opposite effect of making them more dry than before.

In the garden Ivy is more extensively used than formerly—the green free-growing kinds as edgings to walks; the closer-growing kinds as coverings for banks, rockeries, and rooeries; and the choicer sorts for staircase, hall, corridor, and even conservatory decoration. For all these purposes Ivy is particularly worthy of being employed, while for covering low walls in almost all sorts of positions and with all aspects a collection of the choice variegated kinds are extremely ornamental.

As pot plants for associating with groups of flowering plants well-trained specimens of Ivy are not only amongst the finest, but are the most easily preserved and permanent of plants. How effective are pyramids of Ivy was strikingly exemplified at the great Show at South Kensington last year, when the nurserymen made the grand and spontaneous offering of the best of their collections, producing an exhibition which has not been equalled in London for many years. Fine as were all the collections then exhibited—rich, valuable, and rare as were many of the plants composing the groups—yet no bank was more strikingly ornamental and won higher encomiums of praise than the group of specimen Ivies associated with *Lilium auratum* from Mr. Turner of Slough.

Ivies in a small state are also admirable for the furnishing of window boxes, balconies, hanging baskets for indoors and out, and the variegated kinds for lively edgings for flower beds in winter. The uses of this plant in its several varieties are so manifold that there is no wonder that the demand for plants is increasing year by year, and very large supplies have to be provided to meet the ever-growing requirements for this now popular plant. I was so struck with the effect of the fine plants noted above that I obtained a few, and nothing in my garden has afforded me more pleasure than my collection of Ivies, and few plants are more admired by my friends and visitors. I have the satisfaction, too, of feeling that they are so safely established that no weather will injure them, but that they will improve year by year with a minimum share of attention being bestowed on them. Some sorts are slow growers, but that is an advantage for many purposes of decoration, admitting the plants to places where luxuriant growers would be quite unsuitable.

To those having much decoration to provide for special occasions, and are in an atmosphere unsuitable for the majority of plants, I can imagine no store more useful than a reserve

of Ivies in pots plunged in ashes or soil in the garden. They can be drawn for on any occasion for which they may be required, and after serving their purpose may be returned to the store for future use.

A dozen effective Ivies which are useful for various purposes I select from those now growing in my garden; but let me say that for covering surfaces, and especially under trees and for forming edgings to walks, the old Irish Ivy (*Hedera helix canariensis*), is unsurpassable. The sorts which I find very ornamental are the following:—

*H. Regneriana*.—Leaves large, green, glossy, leathery, and but slightly lobed. A noble Ivy for covering walls quickly, being very bold and handsome.

*H. pedata*.—Leaves hastate, small, sharply lobed, green with distinct silvery-grey veins; a good grower and climber; suitable for walls, pots, and almost all purposes of decoration. One of the most useful.

*H. latifolia maculata*.—Leaves large, green, heavily blotched with white. A very free grower, and admirable for dark places in shrubberies, either for covering walls or trellises or for trailing over the surface of the ground.

*H. lobata major*.—Leaves medium-sized, bluntly lobed; a cheerful green, with clearly marked veins. A very useful free-growing variety.

*H. minor maculata*.—Leaves very small, perfectly mottled; habit close; plant of free growth. Useful for margins.

*H. sub-lutea*.—Leaves small, irregular, not lobed; centre green, edged and flaked with white and yellow. Distinct but not vigorous.

*H. rhomboidea*.—Leaves medium, almost oval; very rich green with clear veins. A good grower; very distinct and effective.

*H. marginata grandis*.—Leaves medium-sized, rich green, broadly margined with ivory white. A very free grower, and valuable for pots, walls, or edgings.

*H. marginata rubra*.—Leaves small, two shades of green, broadly edged with white and flaked with pink. Attractive.

*H. marginata major*.—Leaves slightly lobed, deep green, mottled with light green and margined with creamy white; veins clear. Effective and a good grower.

*H. angulata*.—Leaves medium, very rich green, rather deeply lobed; veins distinct. Not a good climber, but effective for many purposes of decoration.

*H. chrysophylla*.—Medium grower; leaves green, some of them mottled with yellow, others entirely yellow. Very distinct, and effective for pots, low walls, rockwork, &c.—J.

### ROSE JUDGING.

NEVER has our national flower been grown so extensively and exhibited so gloriously as in the season now passing. In many stands the difficulty has not been to pick out good, but inferior blooms, so uniformly excellent have been the collections.

Rose-growing is not only pleasurable in itself, but fosters good feeling, promotes good fellowship, and calls into action worthy qualities. There is nothing churlish about rosarians; they not only desire that others should see and enjoy their "blooms," but at great cost and labour travel with them, it may be, a hundred miles and place them on the exhibition tables.

In the exhibiting of no flower is there such a heartiness as in exhibiting Roses. Each exhibitor hopes to win—he would not be a worthy exhibitor if he did not—but there are no "better losers" than among rosarians when a verdict is rightly given. Some exhibitors are more elated than others when successful, and there are degrees of expressed disappointment on losing. It is stated that on the Rev. Reynolds Hole being "lectured" by an unsuccessful exhibitor, who thought himself or his Roses "badly judged," that Mr. Hole coolly replied, "My friend, I always said if ever I went crazed it would be over the Rose."

But considering the difficulty of judging Roses, the differences of taste, and the number of exhibitors, it is proverbial that there are very few "scenes" in the Rose court, and that because those who indulge in the gentle art of Rose-growing are gentle-men. Yet there are not many shows at which some exception is not made to the correctness of the verdict in some class or other. That the judges are impartial no one doubts, and they are admitted to "know a Rose when they see one." But knowing a Rose well is not sufficient to constitute a gentleman a judge. There are those who can analyse the merits of a Rose perfectly, and can pick out the best half-dozen or dozen

blooms with certainty, but who become quite bewildered when they have to adjudicate on half a dozen "seventy-twos" and as many "forty-eight trebles."

In these large classes and when the competition is keen there are very few amateur growers who can grasp the qualities of the several collections. There are not many exhibitions which do not betray some error in judging, and at times the awards are changed after they have been made. The judges have long and carefully balanced the collections, and have decided as they think rightly, when someone sees at a glance that an error has been committed, and points it out in a few words that carry conviction, and the mistake is sometimes rectified. At some shows it is observable that freshness and quality have carried the palm, and at others size has triumphed, according to the "tastes" of the adjudicators. There does not appear to be quite an accepted standard in Rose judging, and perhaps it would be difficult to define one: hence it is that judging must be a matter of taste, and the more important it becomes that the adjudicators should not only "know a Rose," but who can comprehend as if intuitively the relative merits of classes which embrace from three hundred to eight hundred blooms.

There are few except those who spend as it were their lives among the Roses, who can judge large collections accurately. I have made a point of noticing the remarks of the working rosarians—the men who have grown and staged Roses for years—when they have entered a show to see the verdicts. It is surprising how "unerring is the instinct" of these men, and if a mistake has been made how quickly one after the other will detect it. It is pretty certain that the professional growers of Roses are the best judges of large collections, and I think the time has arrived when at least one professional judge should preside over the important classes in every great show. There are those who do not now enter the lists in competition, yet who are thorough masters of the art of judging, whose services might advantageously be brought into requisition. There are great growers in the north who do not exhibit in the south, and *vice versa*, who might be engaged to adjudicate, giving them remuneration proportionate to their standing and skill. One thorough good judge will not only judge more accurately than the majority of amateurs, but will do his work more quickly. Rose-growing has attained such a state of perfection, the collections are so large and numerous, and their merits are so nearly balanced, that only judges of great standing can be expected to give safe and satisfactory verdicts. At any rate it is highly important that special care be exercised in the selection of judges, for it is a great mistake to think that all lovers of Roses and enthusiastic admirers are competent to adjudicate in the great classes at our large shows.

In judging the judging too, for there is necessarily much of that, one cannot be too careful. Nothing can be more absurd than to differ from the awards two hours after they have been made. At a recent show a judge, one of the best in England, was "button-holed" and brought face to face with the work he had done two hours previously. "Which now as a Rose-grower and a honest man," asked his interrogator, "which of these collections do you mean to say is the best?" "This one of course," after a momentary glance at the boxes, replied the adjudicator, pointing to the second-prize collection. "Then why," retorted the exhibitor, "did you not give it first?" "Because," said the judge, "it did not deserve it. I awarded the prize to the best collection at eleven o'clock, and now it is one o'clock."

There is a great deal of reason in that reply, and it may well be kept in mind when one is inclined to judge the judging. In even half an hour after judging blooms will lose their quality, and if on-lookers would well consider the question of "time" in connection with quality there would be fewer remarks on "bad judging." But one thing is clear, that in adjudicating on the magnificent displays of modern times the judges cannot be too thoroughly, practically, and intimately acquainted not only with Roses as such, but with Roses in the immense numbers and of the high quality that are now staged. Where twenty can be found to judge in the "twenty-fours," not half a dozen deal competently with close collections of "seventy-twos."—A SECRETARY.

### FLOWERS WITH FERNS.

THE following is a plan now used by me in the gardens at Hainton Hall for filling pots (which are placed in vases), with cut flowers and Ferns.

At the time of potting Maidenhair and other Ferns three-

or four small vials are inserted in the earth, which vials should be filled with water and cut flowers inserted at the time they are wanted for decoration. This has a very pretty effect, and the Ferns last much longer than in the ordinary way of cutting the fronds.—JOHN FRISBY.

### MIGNONETTE.

DESERVEDLY popular is this sweet and simple flower, not only in this but in other civilised countries. For this universally admired plant we are indebted to Egypt, but it has long been perfectly at home with us, growing almost everywhere and ripening its seeds perfectly. I say it grows almost everywhere, for there are some singular exceptions—some gardens wherein this plant refuses to thrive, but they are fortunately not numerous. I was once engaged in a garden in Lancashire where it was next to impossible to make two such common plants as Mignonette and the common Laurel grow; and I have known in a few other places how difficult it has been to grow Mignonette satisfactorily in the open garden, and not infrequently have I read records of failures and applications for aid under such circumstances in the columns of the Journal. It is not easy to account for such a free-growing plant as the Mignonette refusing to grow even when the site, soil, and surrounding circumstances are in some degree familiar, much more is it impossible to divine the cause of failure in gardens of which one knows nothing. If I cannot explain the cause of failures which some have to endure, or point out any satisfactory remedy, I can at least offer as some consolation that those who fail fail in good company, and that their failures do not in all probability arise from either ignorance or neglect of those having the charge of the gardens wherein this plant refuses to flourish.

It is not a pleasant theme to report failures in the cultivation of any plant, and it is especially delicate, and in fact almost dangerous, to identify the names of places and of cultivators where and under whose care a given plant cannot be satisfactorily cultivated lest it should be construed as reflecting on the skill of a particular cultivator. Especially is that the case when reference is made to those of rather light calibre. I once made the mistake of referring to the practice in a garden which was fairly good, and giving the gardener rather more credit than he was in strict justice entitled to, but because I did not say he grew many things better than everybody else I received a severe epistolary castigation, which I have carefully preserved as a singular admission of human frailty. But, on the other hand, there are those standing so high in their calling, whose skill is so generally admitted, and whose practice has long been so eminently successful, that there is not the remotest fear that the record of a failure can be regarded as more than what it really is—the simple chronicling of a singular fact, and to think of it in any way as reflecting on personal skill is a palpable absurdity. I do not hesitate to state, therefore, that in one of the finest and best-managed gardens of Britain—a garden wherein I have seen uniformly high practice, and of which the manager's name is a "tower of strength," Mignonette refuses to grow. That garden is at Drumlanrig. In that garden I saw Pines grown as I never saw them before, Grapes in perfection, flowers from aristocratic Orchids to the commoner hardy perennials, and even annuals of almost all kinds, and all grown excellently well, but no Mignonette; therefore I have remarked those who fail fail in good company, and are probably the victims of circumstances incidental to their locality, fixed in character and unalterable. Probably extreme wet has much to do with Mignonette failures, for in one garden in a very wet locality the only place where it flourished at all satisfactorily was in the chinks of a wall. I allude to this now because of some recent inquiries on Mignonette failures, and also because this is the period for preparing for a supply of flowering plants in the winter months.

Mignonette is welcome at any time, but especially in the dull months of the year its delicately-perfumed spikes are coveted and appreciated. As in garden so also it is in pot culture—with some Mignonette grows as freely as do Mustard and Cress, while others have no small trouble in producing robust and healthy plants. But when grown in pots success depends on correct management, and failures are mostly traceable to neglect, or a want of skill or means to apply it.

Mignonette while susceptible of injury by excessive moisture in its early stages is also liable to receive injury by extreme drought. In the summer months especially more failures

arise from the latter than the former mishap. It is not easy to grow Mignonette in pots unless they are plunged in ashes or some other suitable medium. The spongioles are extremely delicate and fine, and shrivel by extreme drought or decay from excessive wet. In both cases the results are the same, and the end failure. If Mignonette is, by fear of damping, so far deprived of water that the foliage turns yellow and the stems become hard, vigorous spikes cannot be produced. The plants must be kept growing freely, and to this end copious supplies of water must be given in dry weather. Plunging the pots, however, conserves moisture, and the plants invariably grow more freely and satisfactorily when the pots are plunged than when they are exposed to the drying influences of the air and extreme changes of temperature. Mignonette, too, rejoices in a good larder. The soil must be rich and firm, so that the food is not only good, but a large quantity is compressed into a small space.

Clean pots, well drained and firmly filled, or nearly filled, with sound rich soil, and seed sown in them very thinly at the present time, the pots being plunged in ashes and so placed that lights can be placed over them in very wet weather, will, with proper attention to watering, yield a fine crop of Mignonette in the early winter months; and the plants, if kept in a genial temperature and a light house, will continue flowering all through the winter. The plants must be thinned very early (that is of great importance), leaving about five in a 5-inch pot. In these pots the plants will flower perfectly, but if large bushes are required for cutting from throughout the winter the plants must be shifted into larger pots before the seed pots become closely matted with roots; in fact, potting must be done when the roots are in full activity, and when the plants are young and luxuriant. When in this state it is surprising, the weather being dry, how much water Mignonette will not only endure but rejoice in. It is when the plants are quite young, and before the pots are occupied with roots, that large supplies of water are fatal; but the safety valve against this is in plunging the pots, rendering frequent and heavy waterings unnecessary, and protecting the plants against drenching showers.

It is important in growing Mignonette that a pit or frame be entirely devoted to the plants, so that the proper treatment can be given them. It is rarely that success follows when the plants are mixed with other plants.

The present is also a very good time to sow seed for growing single specimens, thinning the seedlings early to the best plant in each pot, and potting-on as required, before the pots are crowded with roots until the plants are finally transferred to their flowering pots. The great object should be to keep the plants growing freely, the shoots soft and stout as Watercresses, and the foliage as large and green as Radishes, then will fine spikes follow in due time.

There are few places where Mignonette in winter is as plentiful as is desirable. Many attempt to grow it and many fail, while others succeed without apparent difficulty. A few common causes of failures are—soil too poor and too light; the seed sown too thickly and the plants not timely thinned; too much water in the earliest stages of growth, and too little when the plants are larger; not plunging the pots; permitting them to be thoroughly drenched with rain, and then when too late placing them under glass and keeping the plants too close and dark. They cannot have too much light and air, and should only have the protection of glass when unfavourable weather—rain or frost—is threatening. Soot water is beneficial when the pots are filled with roots and larger pots cannot be given.

There are different varieties, but any of them if the plants be well grown will give satisfaction. The "giant" becomes a dwarf in the hands of a bad grower, while the "old sort" becomes refreshingly robust when the right treatment is given throughout. In a word, more depends on culture than on the selection of any so-called variety.—W.

[We knew a soil that did not produce Mignonette satisfactorily until some bricklayers' limy rubbish was added.—Eds.]

### CATERPILLARS ON GOOSEBERRY BUSHES.

THERE are various remedies for this destructive insect. A bunch of Gorse, lime, powdered hellebore I think, a sprig of Elder, picking by hand, and there may be sundry others equally efficacious. Would any of your readers who may wear a tolerably thick boot like to try the following very simple process? Give the under side of the bough a sharp and sudden

upward kick, then with the sole plaister the fallen enemy on the ground. If this should be thought too commonplace an implement, I have used a spade; but the other, being always carried about with you, is the most handy.—V.

### IN AND ABOUT CHESTER.

I owe it to the kindness of the Messrs. A. & F. Dickson that my visit to Chester was so pleasantly employed, and that I am enabled to tell the readers of the Journal something of what may be seen there by those interested in horticulture; while to all who love the olden times there is no city in England which presents so much of real interest as it does. Its quaint old houses, its unique "rows," its old walls, its venerable remains, all tend to make it a city *per se*. One may sit on its walls and muse on the time when the legions of mighty Rome were encamped here and executed works which remain until now, or of the times of those Saxon conquerors who like the rider in the old fable from being helpers became masters, or of those days when these quaint rows were built, and people them with characters which many an old story book has made us familiar with. But we must not dream of the past but think of the present; and here we are now in a part which tells something of the difference between the olden and modern times, for though the Roman legions made fountains and erected altars to the nymphs of the woods, and built temples and aqueducts, we do not hear of their making parks or laying out grounds for the recreation of the citizens. But now in

#### GROSVENOR PARK

one may see a proof of the different tastes of these days, and also of the liberality of that noble house which has been so identified with the city of Chester, and of whose princely place—Eaton Hall, something has been said.

This Park was presented to the city of Chester in the year 1867 by the Marquis of Westminster, father of the present Duke. It is beautifully situated on the banks of the Dee, and from it can be seen the castellated ruins at Beeston and a wide extent of country. There are two main walks about 15 feet wide, one of which is planted with *Cupressus Lawsonii* and *Juniperus chinensis*, the other with fine specimens of the Broad-leaved Holly. The quarry from whence the stones were taken for the boundary wall has been turned into a rock garden, and with a well in the centre. There are various clumps of ornamental trees. The whole was laid out by Mr. Kemp, and the planting executed by Messrs. A. & F. Dickson; while not only did the Marquis of Westminster give the Park but endowed it with £200 a-year for its proper maintenance.

Florist though I am, the most natural style of gardening has a great attraction for me, and alpine and herbaceous plants will always give me a treat which no bedding-out ever does. When therefore I heard that there was a rock garden in the neighbourhood, although my informant could tell me nothing as to its present condition, I was glad to have the opportunity of seeing it.

#### HOOLE PLACE

was formerly the residence of Lady Broughton, by whom the rock garden was formed, and under whom I believe it was well arranged and kept. Sir John Broughton was known well in the neighbourhood of London some years ago as an exhibitor of Azaleas, &c.; Broughtoni was named after him. It at present belongs to Mrs. Hamilton, who manifestly has not the taste of her predecessor. The garden was evidently formed to imitate an alpine valley surrounded by hills; the rockwork being, I should suppose, some 20 feet high and built of a very peculiar and picturesque stone from Gresford, a sort of conglomerate of wood and lime, and I can imagine no better matrix for the numerous lovely alpine plants which have been introduced of late years. But alas! if one wanted to know how not to do it here is a fair example. The whole place is overrun with *Erinus alpinus* (very pretty, but here it was overdone), *Saponaria ocyroides*, *Cerastium*, &c., while Yew trees clipped into formal shapes were planted at various elevations, and bedding *Geraniums*, &c., introduced amongst them. Then the lawn, which might have been made, and I think very likely was made, to represent an alpine valley, is now laid out in formal beds planted with Roses and bedding plants. Had there been simply a lawn to imitate an alpine meadow, and a small stream of water been arranged to run through it, as I think could have been done, the whole would have worn a very different aspect. Amongst the Ferns, which I found doing very well here in the open, was *Adiantum pedatum*. There was in one form or another a good bit of glass about the place,

and in the houses were some plants which one does not always see now-a-days. Some fine plants of that pretty annual *Schizanthus Priestii* were just going out of bloom. The gardener said that he sowed the seed in September, and kept the plants in cold pits until the frost set in, when they are removed to the greenhouse and flower all through the winter. They are graceful and elegant, and answer admirably as cut flowers. The gardener also spoke of *Chrysanthemum Dunnetii* as useful for the same purpose.

Exactly opposite to Hoole Place is

#### HOOLE HALL, THE RESIDENCE OF A. POTTS, Esq.

Very different indeed in character, where gardening in nearly every branch is carried out, from stove and greenhouse plants to even a collection of *Auriculas*. The house is a large, commodious, and square building with a conservatory attached. In this was a large plant of *Dicksonia*, *Lapageria alba*, *Musa Ensete* in fine condition, the old and beautiful *Plumbago capensis*, and a fine plant of *Tacsonia Van-Volxemi* hanging from the roof with its beautiful crimson parachutes. The back wall of a conservatory is never a very sightly aspect, but here it is made very pretty: an artificial rockwork had been placed against it, and in its recesses and nooks had been planted *Adiantums* and other Ferns. The gardens were extensive, and, as I have said, of a very varied character, and alterations are being made which after a little time will add to their appearance. Roses came in for their share of attention, having a place devoted to them, while the fact that there was a collection of *Auriculas* had whetted my curiosity. But, alas! like the rockery at Hoole Place, it was a disappointment. I found the numbers to be small and the kinds few, and those not in the best condition. They were grown in large pots, the old "mugs" of the Lancashire growers, and they were placed in a very hot situation under a north wall. As a rule a northern aspect in summer is what they want, but they had here all the afternoon sun, while the reflection from the wall slate further increased the heat and dryness, and they seemed to me to be in an evil case. I have a difficulty myself in finding shelter for my collection in the summer months, but do manage it under a hedge, which I believe to be far preferable to a wall, the greater coolness and airiness of the situation being in their favour. Bedding-out was just beginning, and, like every other place this year, was backward. The neighbourhood of Chester had suffered very much from drought and cold winds this spring, the genial rains with which we had been favoured in the south not having apparently at this time reached them.

It did not strike me from what I saw and heard that gardening in the neighbourhood of Chester is in a very flourishing condition. I should have expected to have heard of much more than I did, specially where such firms as those of the Messrs. Dickson are there to show people how things ought to be done; and I am the more confirmed in this by observing that according to Hogg's "Horticultural Directory," there is no horticultural society in the town and neighbourhood. I believe that this is a pretty sure index of a languishing condition of gardening taste. Why it should be so it is not for me to say. There are public-spirited people there; there is a resident nobleman whose hand is ever ready to help forward anything that tends to benefit his fellow men; and there is a populous neighbourhood from whence to draw the company by which a flower show is made to pay. It may be that this may meet the eye of some of the readers of "our Journal" in Chester, and if so it may stir them up to do something in the cause we all have at heart; and my own somewhat extended experience goes far to prove that where there is no flower show it is because the taste for flowers is at a low ebb, and that when once a society is started it soon fosters a taste.—D., Deal.

### MRS. PEARSON GRAPE.

MR. DOUGLAS in his lucid description of Mr. Pearson's *Narses*, Chilwell, on page 28, mentioned the new Grape Mrs. Pearson. As I had the opportunity of tasting this Grape in February last I am of opinion that it will eventually prove the best-flavoured late white Grape in cultivation.

I believe Mrs. Pearson is the result of a cross between the true *Alicante* and *Ferdinand de Lesseps*, though I am not sure as to the latter. In appearance it is exactly like an *Alicante*—namely, compact bunches and good-sized berries, set freely on stout short footstalks. In flavour it much resembles *Ferdinand de Lesseps*, but with a stronger Muscat flavour, like a thoroughly



well-ripened Muscat of Alexandria. I can therefore safely predict from what I saw of it that it will prove to be a valuable white companion to Lady Downe's or Alicante.

The Vine appears to be a vigorous grower, judging from the wood it had made the preceding season. As but little artificial heat was used, the berries had not assumed that deep yellow colour characteristic of Golden Queen; but that will easily be remedied by subjecting it to a warmer temperature. Even when grown under the coolest treatment possible the flavour was very rich and satisfying.—A. W., *Lincoln*.

### VERBENAS AS CUT FLOWERS.

NEARLY everything that was exhibited at South Kensington was alluded to in your report of the Show, yet there was one omission—the cut flowers of Verbenas exhibited by Mr. Turner. The Roses at the Show were—well, they were regal; the Carnations and Picotees were splendid, and the trusses of zonal Geraniums were brilliant or gaudy, according to taste; but the Verbenas were charming, or as a lady visitor observed, “sweetly beautiful.” Here we had a greater range of colour than any other collection of flowers afforded—bold, yet chastely formed, and delicately perfumed. White, pink, cerise, scarlet, crimson, maroon, lilac, blue, mauve, and purple were all represented in this attractive collection of Verbenas.

In some places Verbenas do not succeed when planted in the garden. This is especially so in light soils and dry districts, and even where they do flourish some varieties can never be seen to advantage unless they have the protection of glass—protection of which they are eminently worthy; for what does it amount to?—simply a cold frame, so many of which remain idle during the summer months. I know from much experience how well a few spare lights can be occupied in protecting Verbenas which are grown for producing flowers for cutting. I know how those flowers are valued by those who possess them, and admired and even coveted with a pardonable if not commendable sort of covetousness by others who inspect them. For many years I have grown cut flowers for ladies of taste; and next to Roses, and standing, I think, higher than Pinks and Carnations, Verbenas are the most prized. These Verbenas are grown mostly under glass—grown in pots in spare frames. Most easy is the cultivation of Verbenas in this way, most certain are they in producing a profusion of flowers, and most welcome are they for the ladies' boudoir and drawing-room.

Given stout healthy plants in spring, they only require potting in sound soil in 5 or 6-inch pots, to be kept free from insects, and be duly supplied with water. Insects are easily killed, or, what is better, prevented by fumigation and occasionally syringing with soft-soap water. The plants should be placed on or partially plunged in ashes in a frame facing north, and from which the lights should be removed for some hours every evening, drawing them off when the plants are watered, and leaving them off even all night in fine weather. The quantity of flowers that can be cut from about twenty plants is something surprising—that is, if the plants are well supported. A few plants when not cut from will if neatly trained make beautiful decorative objects. But it is for affording flowers for room decoration that Verbenas in pots are so valuable and recommendable. All who have a demand for cut flowers in summer should grow Verbenas in this certain and easy manner. The flowers, however, are not good travellers, but when cut and placed in water immediately they last quite long enough.

A frame full of healthy plants cannot fail to be found most useful; but if the plants are neglected and insects are allowed to feed on them, or if water is not given freely and the growth becomes hard, then are Verbenas unsightly and disappointing. Grow them well and Verbenas in pots will give a reward. The following excellent varieties I noted as being exhibited at South Kensington:—Annie, Apollo, B. A. Hallam, Black Prince, Celestial Blue, Christine, Crystal Palace, Edwin Day, Firefly, Fairy, Florence, Géant des Batailles, King of Lilacs, Lord Raglan, Magnificens, Nemesis, Prince of Wales, Queen of Whites, Rev. C. P. Peach, Rev. P. M. Smith, Apology, Duke of Edinburgh, The King, Claudiana, Lady of Lorne, and Lady Ann Spiers.—A VISITOR.

### SYRINGING.

REFERRING to this subject, I may state that while going through the houses at Drumlanrig the other day the young man in charge of the plant stove there was closing this place in the afternoon and giving the plants a thorough drenching over-

head with a strong garden engine, and Mr. Thomson remarked to us that that was the best of all the insecticides. As to the condition and appearance of the plants, I have seen specimen plants at the London shows and elsewhere, and new and rare kinds in many localities, but I have never seen such healthy well-grown plants as the stock at Drumlanrig at the present time. I need not mention one kind of plant in particular; from the smallest to the largest, and from the newest to the oldest, without a single exception, every one of them is a first-rate example of high culture. Many of the Palms and Crotons are very large in size, and large quantities of small and middle-sized plants are grown for room decoration in the Castle.—A MIDLAND-COUNTIES READER.

### WACHENDORFIA THYRSIFLORA.

WACHENDORFIAS are bulbous-rooted plants from the Cape of Good Hope, but they are not commonly found in cultivation,



Fig. 7.—*Wachendorfia thyrsiflora*.

possibly because bulbs from Holland are so plentiful and varied and withal so easily cultivated that others more or less obscure are not much sought for. Wachendorfias are, however, both distinct and attractive, and are worthy of being included in the collections of those who appreciate plants of this nature. In general character they are not very dissimilar to some of the Scillas, but in colour they are totally different. In the Scillas the prevailing colour is blue, in the Wachendorfias it is yellow. There are a few exceptions—for instance, *W. hirsuta* is violet, and *W. brevifolia* is purple, but nearly all the species are yellow, including the one now figured, *W. thyrsiflora*. This is a very old species, having been introduced more than a century ago.

The plants are of easy culture, the bulbs only requiring to be

potted in very sandy soil containing about a third of peat, giving the usual after-treatment necessary to plants of this nature—that is, watering sparingly at first, increasing the supply with the growth of the plants, affording them little or no moisture when in a dormant state. They are greenhouse bulbs. The genus was named in honour of E. J. Wachendorf, a Dutch botanist. They are readily increased by seeds or offsets.—K.

### GLORIOSA SUPERBA.

It is quite true as suggested by "W. T. S." on page 45 that this plant is highly worthy of culture. The flowers are truly striking and remarkable, and cannot fail to arrest attention wherever they are seen. They are both quaint and beautiful—quaint in form and beautiful in colour. This is, as your correspondent has stated, a very old plant, and also in a great measure a forgotten plant, and it is now rarely seen in cultivation. The on-looker at the Aquarium who described it as a "Lily of some sort" was not far wrong, for it is allied to the Lily, and has as one of its several synonyms *Lilium zeylanicum superbum*. It is also known as *Methonica superba*, that being the name by which the plant is known in Malabar. It was figured more than half a century ago in the "Botanical Register," and in the first volume of that work its name is referred to as being "more worthy of the whim of a Dutch florist than of the taste of Linnaeus," and where the plant is also well described as follows:—

"The plant is singular as well as beautiful. The scarlet undulate retroverted ascending segments of the corolla are likened by Linnaeus to so many flames. The style points horizontally, and appears as if broken at the base and fallen on its side. The root is a fleshy, brittle, elongated, somewhat flattened tuber, bent downwards on each side from the middle into a kind of arch, from the upper part of the centre of which the stem rises. The stem is from 6 to 10 feet high, weak, and supported by the hold the leaves take of the neighbouring plants by means of a spiral tendril growing from their point. The corolla varies from 2 to 3 inches in depth. Its place in the natural system is among the Lilia, near to *Erythronium* and *Uvularia*. It is a native of the East Indies, and was introduced by Mr. Bentinck, afterwards Lord Portland, in 1690."

Although this plant is generally known by the fanciful name of *Gloriosa*, its true name, says the "Cottage Gardener's Dictionary," is *Clynostylis*, in reference to the way the style bends to one side away from the stamens. In that work the cultivation of the plant is thus concisely given:—

"It is increased by divisions of the roots and seeds; if by the former take a pot that has been kept dry all the winter, say in March, turn it out, and separate the bulbs carefully without bruising them. Place each bulb, with the end farthest from the old tuber, uppermost in the centre of a clean pot, covering it with an inch or two of soil, the pot being 5 or 10 inches, or any intermediate size, in diameter, according to the size of the bulb; peat, loam, leaf mould, old cow dung, and sand in equal proportions, with good drainage. Give no water until the bud appears above ground, then water and place in a strong moist heat, growing vigorously, and training as the plant proceeds. When done flowering, and the leaves turn yellow, refrain from watering, and shortly after turn the plants on their broadsides in a dry place, and allow them to rest until next season."

To that it is only necessary to add that the plants after starting into growth in the hotbed in which the pots have been plunged, will grow freely in an ordinary stove, or even in an intermediate house where light and a moist genial atmosphere is afforded. They grow and flower freely, and where a suitable house is provided there is no difficulty in growing this remarkable plant—or plant with remarkable flowers—satisfactorily. It is to be hoped that these singularly beautiful flowers will not be so rare in the future as they have been in the past, for none are more striking, and they are also easily produced.—F. H. S.

### TAKE-UP THE EARLY POTATOES.

The growth of the early Potatoes, somewhat retarded by the cold inclement weather of spring and early summer, has been brought to maturity with great rapidity by the late hot dry weather. I do not mean by maturity that the haulm is decayed, for with the exception of a tinge of yellowness in the lower leaves it is as green and vigorous-looking as that of

the late sorts, but that the tubers have ceased to grow, and are therefore ready for lifting, which should be done with the greatest possible promptitude and dispatch, because it is precisely at this point that they become susceptible to blight. An abundant crop of Myatt's Prolific Ashleaf and Royal Ashleaf is already in the store-shed in splendid condition without a blemish; other kinds will follow in due course, and judging from present appearances I anticipate having the entire crop lifted and housed by the third week in August.

Let me repeat the warning so often given before—Watch your Potatoes closely during the next two or three weeks, and as soon as you are convinced that the tubers have done growing take them up at once however green the haulm may be, store them in as dry a condition as possible, let the air play freely among them afterwards, turn them occasionally till they are thoroughly dry, and you may laugh at the disease and have no need to trouble your mind about blight-proof sorts—fungi, resting spores, or kindred subjects.

As the crop is taken up carefully select seed for planting next season, laying it out thinly at once upon shelves specially set apart for that purpose. Avoid greening or any other fanciful process; only lift the tubers in a sound condition, and there need be no fear of their not keeping well provided they receive due attention in the store-shed.—EDWARD LUCKHURST.

### FEATHERED HELPS IN GARDENS.

I WAS pleased to see more than one notice of the usefulness in gardens of that sprightly and unique bird the peewit, or plover, or lapwing, for the bird is known by all these names—in the eastern counties by the first name, in the western by the second, and in books on natural history by the third.

Having kept peewits I can speak much in their praise. If I had a walled garden I should have them now; but wall there must be, for this little bird is at the breeding season as determined to escape as is that strange crafty creature the tortoise, which when the time comes round will do its utmost to get away, rearing its ungainly self on its hind legs and trying every fence and bar: so likewise in its own peculiar way will the peewit act.

First I would say do not pinion the little bird; it injures it permanently. Cut the feathers of one wing (don't pluck them, as they would soon grow again); cut them, and that will last a year. Let them have a shallow dish or pan to drink from and bathe in; then, not only in frosty weather, but in very dry summers, when slugs cannot be found and the earth yields no worms as now, feed them. I used to cut raw liver into narrow worm-like pieces, and the birds fed close by me and did well.

Recently I saw a peewit in a walled garden in Hampshire—a very good garden by the way—and he came to us at tea near the summer-house and had breadcrumbs; but the bird did not look in good feather, for worms and animalculæ are their natural food, and failing them raw meat. I know no pet more interesting if it become tame. Just a year ago I caught a young one, recently hatched, on Salisbury Plain close to Stonehenge. What a beautiful little ball of down it was! and though so young the full, large, handsome eye of the plover marked it as no ordinary bird. I petted it, and put it on the ground to the joy of its mother who was almost mobbing my hat, so near did she come from her anxiety for her little one.

I have mentioned the "full eye" of the peewit. The robin is another of the fine-eyed birds. Bloomfield has noticed this in his "Soldier's Return Home," where he says—

"That instant came  
A robin on the threshold; though so tame,  
At first he looked distrustful, almost shy,  
And cast on me his coal-black steadfast eye."

That description of the robin's eye is very happy; but the peewit's eye is fuller and finer, with a softened look, for it seems to swim in liquid light.

I hope all who place peewits in their gardens will be sure to remember that they cannot exist without food being given to them in very dry as well as in frosty weather. Aye, feed them on the first frosty morning. 'Tis a feeble little life, and must be supported. How should we like to starve even one day? Shakspeare, who was a country boy, notices the habits of the lapwing thrice, and in his own charming way—thus, "The lapwing runs away with the shell on his head." He says this of a forward fellow, alluding to the bird's precociousness. Then he had seen the peewit's craft in leading the boy plunderer from its eggs; hence he says, "Far from her nest the

lapwing cries away." And he had noticed also the bird's habit of avoiding being seen by running close to the earth—"Like a lapwing he runs close to the ground." Even Milton blunders in his natural history, Shakespeare never. He who so accurately noted a Cowslip as to write—

"On her breast  
A mole cinque-spotted, like the crimson drops  
I' the bottom of a Cowslip"

(and whoever saw a Cowslip without the five spots?), as accurately marked the habits of the lapwing.—WILTSHIRE RECTOR.

## ROSES AT KENSINGTON.

"WILL you come into my garden?  
Says the spider to the fly."

The clever spider being your Sub-Editor, the poor fly your humble correspondent. I was staging Roses in all the amateur classes, judging the nurserymen, and then was allured into taking notes for you. What wonder that I was, as I was consolingly informed, "too late" for your last issue?

The date of the Roses at South Kensington was not the fresh leafy month of June, but the 19th of July, torrid and thirsty almost as was the *Wyld Savage*, as a dissenter once called your mild correspondent, punning upon the name of my poor benefice, Monkton Wyld, and yet the Show was grand. Let me preface my remarks on the Roses with a growl, it is but a little one, and best to have it over at first. Why will not the Society have more Judges? I was present as your "chief taking notes," but I found that only three Judges, and two of these no one, as far as I could learn, had ever been heard of as rosarians, were told-off to judge Roses, Lilies, Fuchsias, greenhouse plants, *et id omne genus*. So I helped to judge the nurserymen with Mr. Quennell, and retired to a discreet distance when the amateurs were judged. I was ill-used. Everyone but two Judges admitted that my beloved Teas were very close indeed for first, Mr. Quennell being rather doubtful whether I was not first; but at all events I was easy second, and here I was placed a poor third, feeling in the same position as the man did who was assured that, though he was nowhere in Roses, he was easy first in moss.

And now for the profession. The nurserymen staged some very fine stands. Mr. Cant of Colchester was again first, showing that he is at least this year *nulli secundus*—all through the year with the exception of the Alexandra Park, where he had to contend with his great Cheshunt rival, who was almost on the spot. Among Mr. Cant's beautiful Roses were marvellous fresh and good blooms of *La France*, *Maréchal Niel*, and *Emilie Hausburg*. A grand Rose is this latter for the late shows, hardly a stand was seen without a good bloom of her. He showed also his new seedling *Prince Arthur*. This is a great desideratum, rather like *Général Jacqueminot*, but with more substance, and the colour more after Duke of Edinburgh. His Teas, of course, were very fine, notably *La Boule d'Or*, the difficult Rose to bloom. This, however, is just the season for it. I for one had it in every stand, and Captain Christy showed it fine in his twelve, where, by the way, he was first. Mr. Cant also had a bloom of *Princess Beatrice* which astounded me. In fact all Mr. William Paul's novelties have this year been shown remarkably well. *Star of Waltham* is a very great acquisition. *Duchesse de Caylus*, and *François Michelon*, *Marie Rady*, and *Madame Victor Verdier*, and especially that gem of the purest water, *Duchesse de Caylus*, were all grand.

Messrs. Cranston & Mayes were second with a very even stand of blooms, which, though not in anything like their best form, were yet very good for the time of year. *Etienne Levet*, *Reynolds Hole*, *Marie Rady*, and *Emilie Hausburg* were very fine. Mr. Prince of Oxford came third with his seedling *Briars*, and here, as a proof of the superiority of his stock for Teas, he showed us a *Maréchal Niel* which was undoubtedly the bloom of the Show. The rest of his blooms, with few exceptions, were a little coarse. *Alfred Colomb*, however, he showed splendidly, and also *Marie Baumann* and *Comtesse de Serenyi*, which novelty, by the way, was in many stands, and always good. Mr. Keynes of Salisbury was fourth. He had a bad back row, and was all through overblown. He showed, however, a very fine bloom of the old variety *Black Prince*, which Mr. Cant also had in his twenty-four, very fine.

In Class 2, for twenty-four (amateurs), Mr. Davis of Wilton Park, Salisbury, was first, and I was second. Mr. Davis showed some splendid blooms. In Class 3, twelve distinct (amateurs), Captain Christy was first with a very fine stand, containing a bloom of a Rose which he called *Souvenir de Colommer*, which, if not *Marie Rady*, must be her elder brother. But the complete prize list has been given, so I will not write any more about the prizewinners.

The florist flowers were so beautiful and of such marvellous form, the finished work of such artists, that an outsider like myself could only sigh and wonder. I have finished my work this

year, and have chronicled the last of the metropolitan shows, and enjoyed the finest show that I have ever seen at Kensington.—JOHN B. M. CAMM.

## SIR JOSEPH PAXTON STRAWBERRY.

I HOPE "J. T." and "W." have quite satisfied themselves that they have obtained a true sample of Sir J. Paxton before making such an onslaught upon the merits of one of the most useful Strawberries in cultivation. This at least has been my experience of its value for the past seven years. In flavour it may be a little deficient, but what Strawberry will command a better sale or travel better than Sir J. Paxton?

It may, perhaps, interest "J. T." and "W." to know that in July, 1874, I planted twelve hundred plants, and in July, 1875, I had a fair crop of fruit, and I fearlessly assert there were not twenty unfruitful plants out of the twelve hundred. Of this season's produce I am quite unable to speak, for I left the county in November last.

My very first acquaintance with this valuable Strawberry dates back to the time when the plants were 15s. per hundred. Sterile plants there are to be found in every variety, but I have found but very few in Sir J. Paxton. Some years since I received from a nurseryman plants of *President*, but not ten out of the hundred were fruitful, and what was more annoying to me, these few fruitful plants were not *President*. Three years since I received plants of *President* from a brother gardener; these I know were pure enough, but unfortunately three-fourths proved barren, and thus ended my experience of *President*. Now, the simple cause of so many complaints against the different varieties of Strawberries arises from the fact that all unfruitful plants as a rule produce the greatest numbers and finest plants, and from these are often planted large plantations of Strawberries. The purchaser is well pleased at his fine healthy plants; but, sad disappointment and disgust is in store for him, and all owing to inexperience of those employed to raise the plants, and a libel upon a valuable and choice fruit the result of inexperience.

My advice to "J. T." and "W." is to plant Sir J. Paxton from fruitful parents, 18 inches between the plants and 36 between the rows, on any soil in a good state of cultivation, and I venture to predict a satisfactory result; but poison the ground with rank dung, put in the plants as thick as French Beans, and the result will be a harvest of leaves and no fruit.—D. BROWN, *Middlesborough-on-Tees*.

## VARIETIES OF ORCHIS LATIFOLIA.

THIS is one of the most beautiful of our native Orchids; it has shown a marked liability to diverge into permanent, and in more than one instance into very charming varieties. One of the most noteworthy of these, or we should, perhaps, say the most so of any of them, is the very distinct and striking variety discovered by Dr. Moore some dozen years since in a meadow at the base of the Dublin mountains during a botanical exploration in that district. This is a very vigorous and robust form both as regards stem and foliage, the former together with the scape growing to a height of from 18 inches to 2 feet. The raceme of flowers nearly equals that of the *Madeiran Orchis foliosa*, and has greatly the advantage of it in respect of colour, that of the Irish plant being of an intense rosy purple. Besides its stately form and the richness of its flowers, this variety is further remarkable for its precocity in flowering, for it flowers fully a fortnight earlier than the typical form. For this reason Dr. Moore, by way of distinguishing it, aptly gave it the provisional name of *O. latifolia* var. *præcox*. Another very remarkable trait in the character of our plant is its tendency to seed, the readiness with which the seed germinates, and the precocity of the seedlings in growing into flowering plants. Only three roots were transferred from the original habitat to Glasnevin, and one of them, at all events, found suitable and evidently agreeable quarters in the interesting bit of artificial bog there. Here it soon formed a stout tuft, producing several flower stems, forming during a great portion of the month of June each year quite the feature of the interesting spot in which it luxuriates. Now, not alone in the immediate quarters of the original plant are flowering specimens to be seen, but scores of them elsewhere in the garden, as, for instance, among the pots of alpine, where the seed has germinated spontaneously. What makes this more singular is, that a similar tendency to produce seed is not at all a characteristic of the normal form of the plant.

Three years after the original find, Dr. Moore was again botanising in the same district, and visiting the same meadow again came upon it. In all his explorations, there or elsewhere, he never met with it outside that particular spot. From all this it will be seen that, besides being prized for its beauty, this form possesses considerable botanical interest.

We turn, however, from it for the present to notice another quite novel and very remarkable form of the species, recently discovered by the Hon. Mrs. Barton, Straffan House, Co. Kildare, in a meadow near Glenade, Co. Leitrim, at the base of the Benbulbin range of mountains. The fortunate finder forwarded to Dr. Moore the only specimen removed, and he regards it as being the most beautiful of all our Irish Orchids. The plant was fully 14 inches high, and had a close raceme of flowers covering the rachis for fully 5 inches or more of its length. It bore, as Dr. Moore remarks, more resemblance to the raceme of some of the Indian Orchids, such as *Saccolabium Blumei*, than it does to our ordinary forms. The leaves are short and stout, fully 3 inches wide, and beautifully spotted with purple. Only two plants of this splendid variety were met with by the finder when botanising in that rich district. One of these she removed; the other, with the instinct of the true botanist, she let remain. We sincerely congratulate the Hon. Mrs. Barton on this fortunate find, and quite agree with Dr. Moore's suggestion that in future it be known to botanists as *Orchis latifolia* var. *Bartonsæ*. This fine variety would appear to be, as is unquestionably the precocious county Dublin variety, quite worthy of the care and skill of the horticulturist, should it ever become common enough to get into his hands.

Few are aware of what many of our native Orchids are capable of under cultivation, and none of them we apprehend would be more calculated to make a pleasing return for the care and skill bestowed than these beautiful forms of *O. latifolia*.—(*Irish Farmers' Gazette*.)

### PLANTS FOR ROCKERY.

Our climate is very cold and rainy, our situation high and exposed, and the winds draw round and between the house and church with such violence as to cut most plants to pieces. I have a rockery close to the house, and the winds, cold, and perhaps soil have made great havoc with many plants. Among those of which every plant has died during the last two winters are *Lithospermum*, several kinds of *Sedum*, *Helianthemum*, all variegated *Arabises* and *Alyssums*, *Hepaticas*, and *Gentianas* (excepting two or three), *Gnaphalium luteum*, *Linum flavum*, *Euonymus variegata*, *Achillea tomentosa*, *Myosotis dissitiflora*, *Aubrietias* of all kinds, and *Helianthemums*. The *Helleborus niger* lives in peat at the top of the rockery, but never flowers; the Rock *Cistus* barely lives. Some of the *Phlox reptans* and *Nelsoni* and *Ericas* have lived and some died. The *Statice coccinea* has in most cases lived, also *Sempervivum globiferum* and *flagelliforme*, but other *Sempervivums* have died.

The following seem to thrive pretty well: *Iberis sempervirens* and *corriesolia*, *Alchemilla alpina*, *Primula farinosa*, *Auriculas*, *Campanula rostrum* and *pumila*, *Saponaria ocymoides*, *Adonis vernalis*, *Aster alpina*, common *Stonecrop*, *Enothera*, *Geranium Wallichianum*, and *Achillea millefolia*, the two last on the north side in heavier moister soil. Being afraid of the rainy climate I perhaps made the top foot of soil too poor and dry with sand in nearly equal proportions to garden soil; but there is a foot or two, and in the upper part 2 or 3 feet, of good soil below this. Perhaps also the rockery is too well drained, being built on a stony mound as the base. Will you advise me whether to enrich the surface with a little more good garden soil and manure during the winter ready for replanting in spring; and also oblige me with a list of twelve to fifteen of the very best and most effective rock plants suitable, which will do well without fail, and make good big clumps in a moderate time? I wish to go in for a few that will be sure to do well under the above circumstances, and cover the rockery with broad sheets of colour during the spring months; also please to mark those which will do best on some steep ledges where the soil is shallow and liable to become very dry. Among those I should like to have, if you think they would do when soil is enriched, are the following: *Woodruff* (*Asperula odorata*), *Musk*, *Aubrietia*, *Gentiana acaulis*, *Cerastium*, *Enothera macrocarpa*, and some kinds of *Myosotis*. For the sake of time and expense I should prefer those which are quickly increased, or can be easily grown from seed this summer. I have two cold frames,

would you therefore advise me for safety to keep all seedlings in them during winter, so as to have the whole stock ready to plant out in spring? I fear if planted in autumn they might be lost during winter from not being well established. I have already sown *Iberis sempervirens*, *Alyssum saxatile*, (*Enothera macrocarpa*, *Gentiana acaulis*, *Auriculas*, *Myosotis palustris*, and *Aubrietia purpurea*. Can you tell me why *Lithospermum* and *Aubrietia purpurea* have failed utterly? I thought they were perfectly hardy.—NEMO.

[We think we can be of little service to you, as yours appears a very peculiar case. We should certainly take note of what fails, and avoid them in future, planting such as do best in quantity. The *Helleborus niger* would do better at the base of the rockwork, where it will have greater depth of soil and more moisture, and the same remark applies to *Hepaticas*—they have been dried up. Most of the other plants are too tender for any but sheltered rockwork—warm aspects or sunny exposures. Of those you have sown *Myosotis palustris* requires moisture, and will not succeed, neither will *Woodruff* (*Asperula odorata*), which requires moisture and shade. *Myosotis sylvatica* would be better than *M. palustris*, and *M. dissitiflora* ought to succeed if it can have sufficient moisture. *Lithospermum* requires a warm exposure; and as *Aubrietia grandiflora* has failed, why not try *A. deltoidea*? We should not deepen the soil, but add to it some well-reduced leaf soil. The following, which you may raise from seed, would probably succeed: *Antennaria dioica minor*, *Aquilegias* would succeed at the base, *Arabis alpina*, *Aubrietia græca*, *Dianthus neglectus*, *Erinus alpinus* in full sun. *Gentiana verna* you have; it requires deep moist soil, but well drained. *Linaria alpina*, *Papaver nudicaule*, *Saxifraga aizoon minor*, *S. cymbalaria*, and dwarf *Wallflowers*. Most *Saxifragas*, *Sedums*, and *Sempervivums* would succeed, also *Erica carnea*, *Achillea ægyptica*, *A. umbellata*, *Campanula garganica*, *Draba aizoides*, *Iberis gibraltarica vera*, and *Viola cucullata*. The seedlings would be the better wintered in frames with plenty of air in all mild weather. We advise you to first make trial, and plant extensively such as succeed.—EDS.]

### NEW BOOK.

*Rain and Rivers.* By Colonel GEORGE GREENWOOD, pp. 247, 8vo, Third Edition, 1876. Longman & Co.

A work that has attained to a third edition needs little evidence that it is of considerable interest to the cultivator of the soil and the geologist. It is indeed full of the results of the valuable observations of the author, written in a very healthy joyous spirit; and if the reader does not concur in all the conclusions to which he arrives, he will yet travel with him very pleasantly in his excursions in search of evidence to support his theory of the very extensive action of water upon the surface of our earth.

In describing the origin of our soils, he tells us that "soil is simply rotten subsoil, mixed with vegetable remains; but there are particular spaces so steep (precipices) that even gravity or wind, independent of the wash of rain, would never suffer a grain of soil to remain on them for an instant. Soil is not the less in perpetual formation on these places. The faces of precipices and bare rocks rot, and thus soil is in perpetual formation over the whole surface of the earth; and from the whole surface of the earth it is in perpetual movement by the wash of rain to the bottom of the sea. This travelling rotten part of the earth is the only part which supports vegetable existence, and consequently animal existence."

The Colonel had evidently considered that when God created the earth He made its surface either uneven or level. If it was level, then there could not be any drainage from it. Its soil would be a swamp, tenanted by only a valueless class of plants. There could not be either streamlets or rivers, and had not the Almighty ordained that "the dry land should appear," there would not have been any sea at a lower level of the earth for the rain water which fell upon it to drain into. It was, therefore, when treating of the all-powerful action of rain water in washing away the surface of the earth to form channels for streams, and thus to deposit the mechanically suspended matters, so as to form soils at the bottom of valleys and deltas at the mouth of streams, that the author of this valuable work remarks that "most people are doggedly possessed with the idea that water will not flow on land which has no slope. But as rain falls from high heaven, its only relief from rising on itself is to flow. Empty a decanter of water on the middle of



the table. Does the water remain in the middle? Introduce a pipe of running water to the middle of a flat stone hall. The water flows all over the flat pavement, and finally escapes from the hall by every door. Why? Not because it flows without a fall, but because it rises on itself, and so makes a fall. . . . Stop the pipe of supply, and the hall will run dry; continue the supply for ever, and a channel would be worn at each door. . . . Nature drains and denudes every flat on earth on this principle, a channel being cut backward from wherever the water can escape with a celerity directly as the softness of the soil. These channels become small valleys, and so the flat, no flat, but hill and dale."

If there is a good deal of geological detail in "Rain and Rivers," the reader will find that the geological lore is given in a very amusing style, and he will not fail to follow the author with pleasure in his travels, not only along the seashore, but amongst the water-worn terraces of our own valleys, and of those of far distant lands.

### ROYAL HORTICULTURAL SOCIETY.

THE Council of the Royal Horticultural Society have summoned a meeting of the debenture-holders for Tuesday next the 1st of August, and also one for the Fellows of the Society for Wednesday the 2nd, in both cases to lay before them the present financial position of the Society. To the debenture-holders such a meeting is full of interest. They advanced the money wherewith to enable the Society to make the garden at South Kensington, and they have a substantial interest in the locality. With the Fellows it is different; their interest is of a less material description, and extends only so far as the gratification of their pleasures or pursuits are concerned.

It is known to those who have watched the progress of the Society since the formation of its partnership with the Royal Commissioners for the International Exhibition of 1851, that under the agreements between the two contracting parties which are virtually incorporated in the charter the Royal Horticultural Society was to raise £50,000 on debentures, which sum was to be expended on the Commissioners' property in making an ornamental garden at South Kensington, the Commissioners expending the same amount in enclosing it with arcades. Both these contracts were carried out, but instead of being enabled to do the necessary work for £50,000, the Royal Horticultural Society spent no less than £73,000 before they could complete the work that they had undertaken to do. The Royal Horticultural Society have therefore during the last fifteen years expended £73,000 on the Commissioners' estate, and paid in round figures £30,000 interest on debentures to adorn and maintain those 23 acres of ground at South Kensington.

Practical men of business habits and knowledge of the world will perhaps reproach the Society for entering into such a speculation, and blame those who induced it to leave its quiet retreat at Chiswick and migrate to the glare of the more aristocratic "court suburb." Those who do so must bear in mind of whom the Council was constituted in those days, and by whose advice that bold but disastrous step was taken. He whom our beloved Sovereign and the whole nation mourned, and still mourn the loss of, was President of the Society at the time, and he was unwearied in the attention he gave to a scheme which he believed was for the advancement of science and art, and calculated to be a lasting benefit to the Horticultural Society, which he had taken under his beneficent protection. But a cruel fate arrested his useful career, and from the day that he was laid in St. George's Chapel at Windsor the doom of the Royal Horticultural Society was sealed, and the wise counsellor who devised, and under whom this great design was to have been executed, was removed from his sphere of usefulness.

If the Prince Consort had been spared the Society and other interests at South Kensington would not have been in the state they now are, and it is therefore out of place to cast any reflections on the Society or its Councils because of what happened fifteen years ago, and of the failures it has been subjected to since. The only fault that can be charged against past Councils is that they should have paid interest on the debenture bonds when a profit had not been made. The interest on these is payable out of the surplus receipts from the gardens, and as it is well known that there has not been, except in two or three years, any surplus receipts from the gardens, the payment of debenture interest was manifestly most culpable. This has, no doubt, been the reason why the Society has been so crippled all along. An annual payment of £1950

for interest alone which was not due would ruin any concern. Happily the present Council have acted more justly towards the Society, and the payment of the interest is stopped. It is for that reason that the Council have summoned a meeting of the debenture-holders, and to explain to them the dangerous position of their security in consequence of the inability of the Council to maintain the Society as a going concern at South Kensington.

It seems hard upon the debenture-holders that £50,000 of their money which they advanced in the joint adventure of the Royal Commissioners and the Society should be entirely sacrificed, and that the Royal Commissioners, who are the only persons benefited by this unfortunate speculation, should not do something to alleviate the condition of those who advanced their money, as they believed, on the joint security of the Commissioners and the Society. It is to be hoped that they will regard the question as one of tenant right as well as of partnership, and that they will not suffer any injustice to be done to anyone by assuming what they may suppose to be a legal position. A distinguished body like the Royal Commissioners, incorporated as they were for the advancement of science and art, will, it is to be hoped, execute their trust better than to have it laid to their charge that the only one of the chartered societies that they took in hand became a failure under their fostering care.

### PEACH BLISTER.

HAVING read the description of Peach blister by Mr. Luckhurst and also by Mr. Smith, I am induced to ask a few questions to help us to guard against or to cure the scourge.

I may ask first if Mr. Smith means the form of blister figured at page 31, July 8th, 1875, of the Journal. If so, that does not show the blister we are so subject to here in Sussex. We do not care for that kind of red warts, which are found both inside and out, but to no extent—they do us very little harm; and I do not think we are so simple as to confuse blister with what is commonly called curl, and shows great neglect, for that we can cure or prevent in a few hours with a solution of quassia chips, soft soap, and sulphur. It is that pest that ruins our trees, and of which we know of no remedy but glass houses or cases. Canvas will not do it. My trees are thoroughly protected with canvas, and I have suffered this year greatly. The sap being retarded we have found, instead of leaves and branches, large ugly masses of thick blistered leaves as thick as one's finger. Why do we have this most when the extreme of temperature is the greatest? If it is not the cold winds how is it we do not have it, or very little of it, in a mild spring? Why does it not come later in the season or in the autumn? We never find it then.

It is a fact that it is the worst when the trees are the most exposed to cold; it is a fact that if not exposed to cold winds we do not have it; it is also a fact that the two extremes of temperature are the worst—very hot sun in the day and extreme cold at night. I have a wall well sheltered from the east by Poplar trees, and after eleven o'clock no sun reaches the wall. On that wall I have young Peach trees, and this year they escaped better than those on a south wall. I consider that the extremes of heat and cold were not so great on the east as on the south wall.—S. JENES, *Brambletye*.

### NOTES OF A SCOTTISH TOUR.—No. 1.

NEWTON STEWART.

HORTICULTURAL of course? Yes. I have perhaps as keen an eye for scenery as most people, can rejoice in beholding Nature in all her works, but I have no capacity for describing my feelings in the enjoyment of wood, and lake, and mountain; and although in the short visit I have lately paid to the land o' cakes I have seen much that has given me real enjoyment, and the memory of which will serve as a feast for many a day, yet I had rather tell of that which more concerns the readers of "our Journal." I put on my horticultural glasses, and through them come the impressions which I now record and, I believe, will interest our friends.

I have already given a report of the Rose Show held at Newton Stewart, and told of the zeal and energy with which it is carried out, and so perhaps some would like to know what sort of a place this is with its 2500 inhabitants which can take at a Rose show as much as Maidstone with its 30,000 inhabitants. Well, it is a well-to-do Scottish town where no very great amount of manufacturing interest is to be noted, the

curing of bacon and sawing of wood being apparently its chief occupations; but it is most beautifully situated. The river Cree flows by the town, and on the hills around it are to be noted some very pretty residences, while in the distance glorious mountains with their ever-varying play of light and shade are to be seen. Like many places in Scotland it has its fair share of rain—somewhere about 49 inches, but owing to its vicinity to the west coast the climate is mild, snow seldom remaining for long on the ground. The soil is fairly good, and in sheltered places the Rose does well. The largest place is that of

PENNINGHAME, the seat of Stopford Blair, Esq., who with the Earl of Galloway owns the greatest part of the property in the neighbourhood. It is situated about two miles from the town on the banks of the river Cree, and amidst a most beautiful variety of scenery, from the wild woodland with its natural tarns where the wild duck and teal breed and the Water Lilies grow abundantly, to the cultivated pleasure ground and garden where all is neat and well ordered. One can wander through the woods for hours and enjoy the sights that everywhere meet the eye; while in the garden, under the able management of Mr. Duthie, there is much that is noteworthy. It is not a large garden; indeed in comparison with many I have lately seen it may be called small, but within it are to be found all the useful and ornamental belongings of a well-ordered and carefully tended place. The stoves and greenhouses had a choice selection of good plants; the vegetables were examples of good cultivation, and out-of-door flowers were in good order. An exception must be made to the Roses, which were curiously affected and in a manner I have never seen before. Every tree, whether H.P. or Tea, new or old variety, had all the leaves most singularly curled—in fact doubled over, and this no matter what the position of the plant. Nor is it this year alone, but every year it is the same. I imagine that it is somewhat the same as that which occurs on wall trees—not the blister, but the curl—and occasioned by the same cause, the cold east winds of the earlier spring months. I am the more confirmed in this opinion from noticing that in several instances the trees had already begun to push away, and Mr. Duthie informed me that the second growth was entirely free from it. Just as I was in despair at the aspect of my few wall trees when I saw how they were blistered and curled, but in a few weeks they broke away, and now are getting up to the top of the wall. The only thing that militates in my mind against this is, that no matter where the plants are, it is the same; and one would imagine that, in some places at any rate, they would be sheltered from the blast.

I saw here, and indeed everywhere throughout this part of Scotland, growing in the most wild luxuriance a plant which I have never seen in the south—*Tropæolum speciosum*, and yet I have seen a good many gardens. As many of your readers may be as unacquainted with it as I was, let me say that it is like its congeners a creeper, running about as luxuriantly as the annual yellow one *T. canariense*, with which everybody is acquainted; but this is a brilliant scarlet, most profuse in flowering, and most showy, so that in going into a garden where it is you cannot help exclaiming, What is that? Mr. Duthie told me that it makes very little way the first year it is planted, that it is impatient of pot culture and requires to be well established, but that the second year it becomes a perfect weed and forms very large roots. One border he pointed out to me and said, That is full of them. Can any of our southern friends give any clue to the reason why we never see this plant? Is it that it requires the damper climate of Scotland, or are our winters too severe? It is a native of South America, but where I do not know. Probably with us it would require to be covered over with some protecting material during the winter months; at any rate it is well worth trying, and I mean to do so this autumn.

The evergreens here, as elsewhere through this part of Scotland, remind me of Ireland, so vigorous and flourishing are they, especially the Rhododendrons, and in spring the grounds must be very gay with their many-coloured blooms.

THE RESIDENCE OF MRS. VAN AGNEW is one of the suburban retreats round Newton Stewart, and is one of those old-fashioned places where one expects to find things not met with elsewhere, and thus to see large standards of such Roses as Duchess of Sutherland, Sir Joseph Paxton, and others (the heroes and heroines of past days) was quite in accordance with one's expectations. The house stands high, and commands a fine view of the beautiful scenery of the neighbourhood; and the Rose garden at the side of the house contained most of the varieties which are now grown, while many of the climbing

Roses were making their way over the front of the house. On the opposite side of the river is a pretty residence, rented for the shooting by Mr. Macquodale, but save the luxuriance of the shrubs there was nothing very remarkable about it. I wish some of those Rose-growers who in our southern climate complain of situation as unfavourable to the growth of their favourite flowers could see the garden at

ALL SAINTS' PARSONAGE.—Imagine a garden without one atom of shelter, exposed to every wind (and the winds here are something worthy of the name), when after a night's breeze you have to walk round your garden and see how many branches of *Calceolarias* have gone, how many Rose buds twisted off or branches broken, and it will be seen that Mr. Mackenzie must have something of the love of gardening, and of the Rose in particular, to enable him to face the difficulties of his position, and yet he does so. He has coaxed Roses somehow to grow; and although in one place where the wind swept over the wall and played sad havoc he has been driven from the field, yet it is only to transfer them to another site, where he hopes to be more fortunate. Had there been but a small belt of trees at the back of his garden, or had it been placed a little lower down, it might have been well; but it is hard work to get them to do, exposed to such blasts as they experience here. I saw here the *Tropæolum* above-mentioned growing well, and also some other herbaceous plants, such as *Aquilegia cærulea*, *Alpine Anuriculas*, *Violas*, *Pansies*. Indeed all this country side seems to suit the latter flowers remarkably well, the cool moist climate being so very different to the heat and dryness of the south, which have almost driven the Pansy out of cultivation. I have already mentioned the success of the Rose show, so much due to him. I may add as a sample of how they do things at Newton Stewart, that on the same day a bazaar held in a small room in the town produced £260 for the Zenana Mission.—D., Deal.

### LEEK ROSE SHOW.

"WILL you judge for us at our Rose Show?" was the question put me by the energetic Secretary of the Leek Rose Society, and indeed a very weighty one it was to answer.

Leek in Staffordshire, and my nearest railway station in Devon! But so kind and pressing and liberal was the Secretary that I could not refuse, and so set off from London on Monday last. I went first to Lichfield, for Leek is somewhat of an inaccessible place, and frequent are the changes you have to make, and very slow the trains after you leave the Midland and North-Western systems. At Lichfield I was just in time for the service at the glorious cathedral, and I do not know which to admire most—the building or the way in which the service was performed—the masterly way in particular that the organist accompanied. I then dined, and dined well too, at the Swan, and I would advise any of your readers who wish to visit one of the most beautiful cathedrals in England to take up their quarters for a day or so at the Swan at Lichfield. They will be waited upon by a charming, fresh, lively, pleasant maid, who, from the moment you arrive, takes you under her wing, and sees that you are as comfortable as at home. It was quite refreshing after a long journey to see her fitting about the room on that hot July afternoon; and I felt much inclined to tarry there, but I thought it wisest to push on to the far end. At Leek I was met by a deputation, who informed me that I was invited and expected to stay at the house of one of the leading men of the town, and that a cab was waiting to convey me there. I was hospitably entertained, and feel very grateful for the kindness which I met with from first to last.

The Show itself was really a very fair one. One open class for seventy-two varieties was the only one offered to nurserymen, the first prize being £8. This brought three exhibitors—Messrs. Cranston & Mayos, Mr. Davison of Hereford, and Messrs. Frettingham of Beeston near Nottingham. Messrs. Cranston and Mayos staged a very fair stand, not by any means one in their best form, but still a good even lot of blooms. They were first. Mr. Davison was second with blooms inferior indeed to Mr. Cranston's, but remarkably fresh and clean, considering the time they had been cut. Mr. Frettingham, for whose benefit the judging was postponed for two hours in order that he might cut that morning, was left hopelessly behind. His blooms were coarse rough specimens, and nearly all too much expanded. He was third because there was no other to compete with him. But instead of being grateful, he was quite the contrary; or we might say, as in logic, "contradictory."

The rest of the Show was composed of exhibits of Roses, Pansies, table decorations, bouquets, and stove and greenhouse plants, and these were all shown by men resident within six miles of Leek. The exhibitors were few, the most part working men, and I do not think anything could be more gratifying than to see the blooms they showed. I am afraid there would be

many heartaches that night, for the numbers of entries were so large that many must have been left out in the cold. One exhibitor was disqualified by the Committee because he would not admit the Inspector into his garden. His blooms were very good, and it is much to be lamented that he brought this upon himself. It is the custom of the Society, in order to prevent as far as they can unfair practices, to send their Inspector to visit the gardens of those who enter for the Show, so that he may see whether there are any Roses likely to be shown on the day. This plan is, I believe, adopted at Nottingham and other places, and works very well. Many of the amateurs' stands were very good, but they nearly all lost points from the bad way in which they set-up their blooms. None of them cut them long enough; you could scarcely see any wood if you lifted a bloom out of the tube. Duplicates, too, were not uncommon, and I never saw so many Roses misnamed. But as the productions of working men they were the best I have ever seen; the cottagers' blooms at Hereford were not to be compared with them, and the numbers of stands at Leek were larger than at any other country show of the kind which I have visited.

I am afraid, however, that the Exhibition was not a financial success. At four o'clock when I left there were not twenty people in the room, and last year they only took £3 at the doors. Rose shows are not supported in the way they ought to be, and I am afraid that the Leek Show will entail a loss on the Society, like, it appears, the grand Show at Maidstone has done. It will be a great pity if this is the case, as a Society like this does much good. It encourages working men to stay at home in the spring and summer evenings to work in their gardens and cultivate the queen of flowers. Nothing is more civilising, more humanising than flowers. We may say of the Rose that it *emollit mores, neque eos sinit esse feros*, although my friend from Nottingham proved the exception to the rule. I saw none of "the cloth" there, and wonder how it is that no clergyman in those parts loves the Rose well enough to take the trouble to exhibit it. But it was a most enjoyable Show, and you will oblige me and the Committee (at whose request I write these lines) if you will find space in "The Rose Journal" for this account.—JOHN B. M. CAMM.

## EARLY WRITERS ON ENGLISH GARDENING.

No. 16.

PHILIP MILLER AND THOMAS MARTYN.

DR. PULTNEY says truly that Miller raised himself to a degree of eminence rarely, if ever before, equalled in the character of a gardener. The eminence was thoroughly deserved, for not only was he a highly skilled horticulturist, but a good botanist, the author of the best work on plants and their culture, and, as Switzer his contemporary testifies, a man characterised by "generosity, openness, and freedom." Yet of this "Prince of Gardeners," as he was termed by foreigners, no authentic portrait is known. To the French edition of his great work published at Paris in 1785, entitled "Dictionnaire des Jardiniers de Philippe Miller," there is prefixed what Professor Martyn terms "a fancy portrait of the author in a bag-wig and ruffles, a costume which must appear truly ridiculous to such as remember the plain old-fashioned English dress in which Mr. Miller always appeared." This fancy portrait I have not seen, and I have been able to add little to the following biographical details.

He was born in 1691. His father was gardener at Chelsea to the Company of Apothecaries, in which place his son succeeded him in 1722. To the knowledge of the theory and practice of gardening he added that of the structure and characters of plants, and was early and practically versed in the methods of Ray and Tournefort. Habituated to the use of these from his youth, it was not without reluctance that he embraced the system of Linnæus, but was persuaded at length by the arguments of Sir William Watson and Mr. Hudson. To his superior skill the curious owe the culture and preservation of many fine plants which in less able hands would have failed at that time to adorn the conservatories of England. His attention was not confined to exotics: few have been ever more acquainted with our indigenous plants, the most rare species of which he cultivated with success. Miller had some remembrance of Ray, and spoke with evident delight of having seen that venerable botanist. He was admitted not only a Fellow of the Royal Society of England, but also a member of the Botanical Society at Florence; he had an extensive correspondence in foreign countries, and was sometimes by foreigners styled *Hortulanorum Princeps*. Of his Dictionary Linnæus has said, "Non erit Lexicon Hortulanorum, sed Botanicorum." A short time before his decease Miller was induced by increasing infirmities to resign his place at Chelsea, and died December 18, 1771, in the 80th year of his age.

The works of Miller are rather important than numerous. He published without his name "A Catalogue of Trees, Shrubs, and Flowers which are hardy enough to bear the cold of our climate in the open air, and are propagated in the gardens near London," in 1730, folio, with twenty-one plates. "Catalogus Plantarum Officialium quæ in Horto Botanico Chelseiano aluntur," 8vo, 1730. Of "The Gardener's and Florist's Dictionary, or a Complete System of Horticulture, by Philip Miller, Gardener of the Botanic Garden at Chelsea," the first edition was published in 1724 in two octavo volumes. The second edition in folio appeared in 1731, and is usually called the first; third edition, 1733; fourth, 1737; fifth, 1743; an additional volume, 1739; sixth, 1748; seventh, 1752; eighth, 1759; published in numbers, ninth, 1768—"plants cultivated in 1768 more than double those known in 1731;" and the tenth, edited by Professor Martyn, in 1807. Smaller editions were published to thwart pirates, the sixth edition of which appeared in 1771, the last year of Miller's life. In the same or the ensuing year he published "The Gardener's Kalender" in 8vo, which has run through a vast number of editions. To one, which appeared in 1761, the author prefixed "A Short Introduction to the Knowledge of the Science of Botany," in which he explains the Linnæan terms, and illustrates the characters of the classes in five plates. This introduction was also sold separately. He began in 1755 to publish his "Figures of Plants," adapted to his Dictionary, which proceeded in numbers till it amounted to two volumes in folio, containing three hundred plates. His extensive correspondence with botanists and others in various parts of the globe enabled him to execute a work of this kind in a superior manner. From the Cape of Good Hope, from Siberia, from North America, and particularly from the West Indies by means of Dr. Wm. Houston, he received for a long series of years a plentiful supply of rare, and frequently of new species, which his successful culture seldom failed to preserve. His original design was no less than to give one or more species of all the genera; but this was found impracticable, and the work was therefore confined to such plants as he esteemed the most beautiful, useful, or uncommon. "The Method of Cultivating Madder as it is practised by the Dutch in Zealand," 4to, 1758. Besides these publications he wrote several valuable papers in the "Philosophical Transactions," one of which was "An Account of bulbous roots flowering in bottles filled with water," a result then lately discovered.

Milleria was named in his honour by Professor Martyn in his "Decades Plantarum Rariarum."

The best edition of his dictionary was edited by the Rev. Thomas Martyn, Professor of Botany at Cambridge, and he deserves in these pages a more than brief notice. He was the eldest of the three sons of John Martyn, M.D., also Professor of Botany at Cambridge and a physician resident at Chelsea. After taking at Cambridge the degree of B.A. in 1756 he removed to Sidney Sussex College and was elected a Fellow. He proceeded M.A. in 1759; in 1761 his father, after having most ably filled the botanical chair for thirty years, resigned it, and the son was chosen to succeed him; and on the election of Dr. Elliston to the Mastership he was appointed one of the tutors of the College. In both offices he exerted his talents with assiduity; as Professor he read lectures in English instead of Latin, and subsequently voluntarily extended his duties to the illustration of the animal and mineral kingdoms as far as they are connected with botany.

In 1763 he published his first works, "Plantæ Cantabrigienses, or a Catalogue of the Plants which Grow Wild in the County of Cambridge, disposed according to the System of Linnæus; Herbariones Cantabrigienses, or Directions to the Places where they may be found, comprehended in Three Botanical Excursions, to which are added Lists of the more Rare Plants Growing in many Parts of England and Wales," 8vo; and "A Short Account of the Donation of a Botanic Garden to the University by Dr. Walker, Vice-Master of Trinity College, with Rules and Orders for the Government of it," 4to. In 1764 he served proctor for the University, and in 1766 he proceeded B.D. In the latter year he published "The English Connoisseur," 2 vols., 12mo, and in 1768 a sermon for the benefit of Addenbrooke's Hospital. In the same year he lost his father, and the two following were spent on a work which should perpetuate that father's memory. This was editing the Doctor's learned "Dissertations and Critical Remarks on the Æneids of Virgil, containing among other interesting particulars a full Vindication of the Poet from the Charge of an Anachronism with regard to the foundation of Carthage." To this work,

which was published in 12mo, 1770, he prefixed a life of the author and a complete catalogue of his works, accompanied by notices of other branches of his family and numerous literary characters as specified in "Nichols's Literary Anecdotes," vol. iii., p. 157. In 1771 he issued a "Catalogus Horti Cantabrigiensis," 8vo, and in following year a second edition, accompanied by his botanical lectures and a plan of the garden.

In 1771 he was presented to the rectory of Ludgershall, Bucks, a living in the patronage of his own family, which he retained till 1785, and soon after he married Miss Elliston, sister to his friend the Master of Sidney, and aunt to the Manager of Drury Lane Theatre.

In 1773 appeared in 4to "The Antiquities of Herculaneum, Translated from the Italian by Thomas Martyn and John

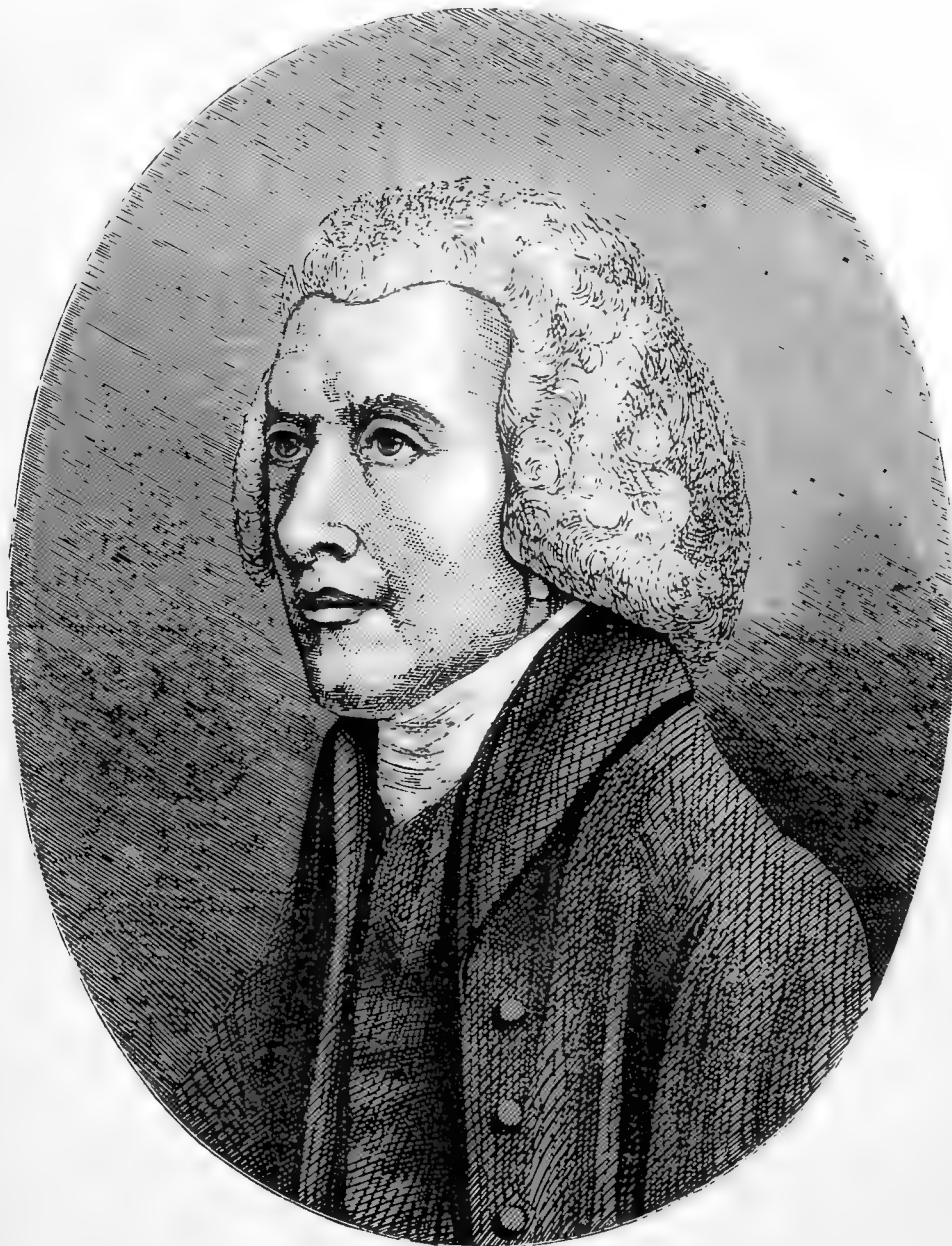


Fig. 8.—REV. THOMAS MARTYN.

Lettice, Bachelors of Divinity and Fellows of Sidney College, Cambridge. Vol. i., containing the Pictures." Mr. Martyn's next work was "Elements of Natural History," 1775, 8vo. On the 23rd December, 1776, he was preferred to the vicarage of Little Marlow, Bucks, by his pupil, Admiral Sir John Borlase Warren, Bart. At this, or probably an earlier period, Mr. Martyn resided at Triplow near Cambridge, engaged as private tutor to four or five young men of fortune. On August 6th, 1777, the Rev. Mr. Tyson wrote to Mr. Gough :—"Martyn is about a *Flora Cantabrigiensis*, to be published next spring. I have the sheets to make additions to and to correct."—(*Nichols's Lit. Anecd.*, viii., 628.) Whether this work was actually pub-

lished, or the materials incorporated in another work, does not appear. In 1785 he published in 8vo a translation of Rousseau's "Letters on the Elements of Botany," accompanied by additional letters; a second addition appeared in 1787. In the latter year he was presented by the Earl of Coventry to the perpetual curacy of Edgware, which he retained till his death. In 1778 he edited "Thirty-eight Plates, drawn and engraved by F. Nodder, Botanical Painter to his Majesty, with Explanations to illustrate the Linnæan System of Vegetables, and particularly adapted to the Letters on the Elements of Botany," 8vo. The Professor occasionally attended on Queen Charlotte in the gardens at Kew.



About this time Mr. Martyn accompanied through France, Switzerland, and Italy Mr. Hartopp Wigley of Dalby Hall, Leicestershire, who was another of his pupils. These travels produced from the Professor three publications:—"A Sketch of a Tour through Switzerland, &c.," 1787, 8vo; a new edition (the ninth) of "The Gentleman's Guide in his Tour through France, &c.," 1787, 8vo; and a most useful "Tour through Italy," 1791, 8vo.

After his return Mr. Martyn resided about three years on his living at Little Marlow, and during that time issued his "Flora Rustica," two vols., 1792-4, and first published his "Language of Botany, being a Dictionary of the Terms made use of in that Science principally by Linnaeus, with Familiar Explanations, and an Attempt to Establish Significant English Terms," 1793, 8vo. A "Description of *Hæmanthus multiflorus*, with an Engraving," appeared as a separate 8vo pamphlet. From Little Marlow the Professor removed to London on accepting the honorary office of Secretary to the Society for the Improvement of Naval Architecture.

But Mr. Martyn's grand labour was the edition of "Miller's Gardener's and Botanist's Dictionary," in four vols., folio, 1803-7, dedicated to Sir Joseph Banks. To this he for the first time added "A Complete Enumeration and Description of all Plants hitherto known, with their Generic and Specific Characters, Places of Growth, Times of Flowering, and Uses both Medicinal and Economical; with the Addition of all the Modern Improvements in Landscape Gardening, and in the Culture of Trees, Plants, and Fruits, particularly in the various kinds of Hothouses and Forcing Frames." His plan for this work he had communicated to the "Gentleman's Magazine" as long before as 1788.

In 1818 he removed to Pertenhall, the place of his decease, being presented to that rectory (a family living) by the Rev. John King Martyn. He died in June, 1825.

As a preacher of the Gospel of Christ, which he adorned by his life and doctrines, he was distinguished by strong sense, accurate knowledge of human nature, and comprehensive scriptural learning. Candid, courteous, and affable, he conciliated the friendship and esteem of many eminent men of all parties. Practical benevolence and charity were conspicuous traits in his character, and the exercise of them was confined neither to place nor party.

### ORCHID CULTURE.

THE increase in the culture of this class of plants throughout Europe and America within the last few years, and the great perfection which is attained in the cultivation of such kinds that used to be considered almost impossible to manage, is really astonishing. The high, moist, and almost unbearable temperature which used to be thought indispensable in the successful culture of Orchids has been mostly abandoned, and a more airy and natural temperature adopted and with marked success. The plants are healthier, flower more abundantly, and are kept more free of insects than when the extreme high-temperature system was employed. The great rage throughout England just now appears to be for what are called "cool Orchids," which comprise some of the finest treasures in the floral world, such as some of the species of *Cattleya*, *Odontoglossum*, *Masdevallia*, *Disa*, *Barkeria*, *Lycaste*, and many others which can be grown in any house when a cool, steady, moist temperature can be maintained free from cold draughts of air passing through amongst the plants. The numerous varieties of *Odontoglossum Pescatorei*, *O. Alexandræ*, and *O. grande*, give them an attraction, making them worthy of a house specially devoted to their culture. The *Odontoglossum* house being a specialty about a good many places in England and Scotland. Of course it is not to be supposed when a cool temperature is mentioned that a cold temperature is meant, and that a general collection of Orchids will with impunity bear a low temperature for any lengthened time is erroneous; from such treatment such plants as *Phalænopsis*, *Saccolabiums*, a good many of the *Vandas*, and other genera from the East Indies may look for a short time in a healthy condition, but spot is eventually sure to make its appearance, and if once this worst of all Orchid diseases gets a commencement in a collection of Orchids it is difficult to stop, and can scarcely be cured. The most devastating case I ever witnessed of this disease was in a valuable collection of Orchids in the north of Scotland. The plants had been growing vigorously for several years, when a change of gardener, who was a strong advocate of the cool-treatment system, changed the tempera-

ture, keeping it too cold for the welfare of the plants, the result being spot of the most malignant kind upon *Phalænopsis*, *Vandas*, *Ærides*, and *Saccolabiums*, completely destroying this once beautiful collection. I visited a collection of Orchids a short time ago in this country, composed of East Indian and Mexican Orchids which have been kept for some time back very cool, and although previously in excellent health I could observe upon some of those which are natives of very warm countries strong indications of spot making its appearance, while such kinds as are natives of Mexico and other parts of Central America are in excellent condition, fully substantiating what experience has always taught me, that while Orchids from the highlands of Central America do best and keep in the healthiest condition when grown in a cool steady temperature when sufficient air is admitted to prevent a stagnant atmosphere, such plants as are natives of Moulmein and other parts of Burmah require a much warmer temperature at all seasons, especially when making their growths.

One of the most fatal mistakes in growing cool-house Orchids is keeping them too dry at all times, which is just the opposite of what they should be, more especially in this country where evaporation is so rapid.

Mr. Rand, in his excellent work on Orchid culture, says, "Orchids must have a house for themselves." This I do not altogether agree with, as the fine specimen plants I saw of some of the most difficult kinds in cultivation at some of the places I visited during my stay in England this winter, which were growing in houses mostly devoted to the culture of other plants, testify that they can be grown, and with success associated with other plants. Where there is a large collection of Orchids, or of any particular class of plants, it is unquestionably the better way to devote a place for themselves; but no collection of plants in the country, whether greenhouse or hothouse, can be considered complete without a few Orchids in it. Some of the finest Orchids we have are of much easier culture than plenty of the hothouse and greenhouse flowering plants.

I have seen some excellent specimens of ornamental-leaved plants and good plants of Orchids in fine flower exhibited at the different horticultural exhibitions in Boston, but very seldom have I seen a good specimen of *Stephanotis*, *Ixora*, *Franciscæa*, or *Dipladenia* exhibited. Horticulturists are not needing, therefore, to be deterred from having in their collections a few Orchids because they cannot set aside a house for their particular culture. Bestow the same care upon Orchids which other plants require with which they can be associated, and they will amply repay the trouble.

The following is a list of a few kinds suitable for culture in the greenhouse:—*Dendrobium nobile*, *Cattleya citrina*, *C. Mossiæ*, *Cœlogyne cristata*, *Cypripedium barbatum*, *C. venustum*, *C. insignis*, *Lycaste Skinnerii*, *Odontoglossum grande*, *O. Alexandræ*, *Phajus grandifolius*, *P. Wallichii*, *Zygopetalum Mackayi*, &c.—M. MILTON.—(*American Gardeners' Monthly*.)

### THE ROYAL GARDENS AT KEW DURING 1875.

(EXTRACTS FROM DR. HOOKER'S REPORT.)

THE lessons given to young gardeners in the evening in chemistry, meteorology, structural and economic botany, and upon which the attendance is voluntary, continue to give satisfactory results.

The following plants of especial botanical interest, amongst others of less importance, have flowered during the past year in the Royal Gardens for the first time in this country.

*Albuccia glandulosa*, *Bak.* *Androsace sarmentosa*, *Wall.*—(*Bot. Mag.* 6210.) *Anthurium Saundersi*, *Hk. f.*—(*Bot. Mag.* 6218.) *Carica candamarcensis*, *Hk. f.*—(*Bot. Mag.* 6198.) Flowered, 1874, fruit ripened, 1875. *Colchicum luteum*, *Bak.*—(*Bot. Mag.* 6153.) *Columella oblonga*, *R. & P.*—(*Bot. Mag.* 6183.) *Crassula Bolasii*, *Hk. f.*—(*Bot. Mag.* 6194.) *Cucumis sativus* var. *sikkimensis*, *Hk. f.*—(*Bot. Mag.* 6206.) *Decabellone Barklyi*, *Dyer.*—(*Bot. Mag.* 6203.) *Diets Huttoni*, *Hk. f.*—(*Bot. Mag.* 6174.) *Dipcadi hydsuriense*, *Bak.* *Diuris alba*, *Br.*—(*Bot. Mag.* 6201.) *Draba hederifolia*, *Coss.* *Eranthemum hypocrateriforme*, *Br.* *Ferula (Euryangium) Sumbul*, *Hk. f.*—(*Bot. Mag.* 6196.) *Heteranthera limosa*, *Vahl.*—(*Bot. Mag.* 6192.) *Hoodia Gordonii*, *Sweet.* *Hypoxis pannosa*, *Bak.* *Lewisia brachycalyx*, *Eng.* *Milla Leitchii*, *Bak.* *Michelia lanuginosa*, *Wall.*—(*Bot. Mag.* 6179.) *Nicotiana tabacum* var. *fruticosa*, *Lin.*—(*Bot. Mag.* 6207.) *Ornithogalum sororium*, *Schott.* *Piaranthus flavidus*, *N. Brown.* *Romanzoffia unalascensis*, *Chmss.* *Senecio chordifolia*, *Hk. f.*—(*Bot. Mag.* 6216.) *Theropogon pallidus*, *Maxim.*—(*Bot. Mag.* 6154.)

It has been found necessary to remove the noble row of old Elms that stood by the river side at the back of the old Palace wall. One of these having been blown down during the winter it was found that it had no adequate roots, and was mainly supported in its erect position by about 5 feet of ballast that had been used to raise the level of the road; an examination of the others showed that a very heavy gale might prostrate the whole and cause immense damage. It was therefore decided to remove them at once and replace them by younger trees. This has been done, and in addition a row parallel to them has been planted on the opposite side of the path.

These trees served in a great measure to mask the gasworks and other unsightly buildings belonging to the town of Brentford. Their removal has brought into greater prominence the rapid progress to ruin of the trees and plantations upon the eyots in the river, and upon which the great beauty of the reach immediately above Kew Bridge and bounding the northern side of the Royal Gardens entirely depends. The eyots are two in number, with an aggregate acreage of 4a. 2r. 24p. Part of the most easterly of them (1a. 3r. 35p.) was in 1626 conveyed to trustees for certain charitable purposes in the parish of Fulham. In 1811 it was leased to Robert Hunter, Esq., on behalf of His Majesty George III., for twenty-one years at an annual rent of £20. From the expiration of this lease in 1832 up to 1873 the same amount of annual rent appears to have been paid to Her Majesty's Commissioners of Woods and Forests. Under the direction of the Charity Commission it was sold to the Office of Woods and Forests, the Office of Works undertaking to pay them the same amount of rent.

The receipts during the past year have been 7326 plants of all kinds, and 2811 packets of seeds from 233 contributors.

The *Eucalyptus globulus* which has been so largely distributed on account of its supposed prophylactic virtues will probably turn out to be extremely useful for its timber in countries not too hot for its growth. On the Neilgherries where Australian trees have been largely introduced, one of the most valuable, the *Acacia melanoxylon*, proves to be all but valueless owing to the ravages of various Lorantheaceous parasites. The *Eucalyptus globulus* is, however, reported by Dr. Bidie to entirely escape their attacks. He attributes this immunity to the "deciduous bark, the seeds (of the parasite) thereby being dislodged before they can germinate and gain a hold."

The production of different kinds of Caoutchouc in India continues to engage the attention of the India Office and of this establishment. One fact in connection with it which seems to require very careful consideration has been pointed out by Mr. Mann in his report on the Caoutchouc plantations in Assam. It is found that although the *Ficus elastica* will grow with undiminished rapidity and luxuriance in situations remote from the hills, it fails to yield Caoutchouc. Mr. Mann concludes that no greater mistake could be made than to start plantations of *Ficus elastica* in any part of Bengal. It appears, therefore, judging from this case, that conditions which may ensure the successful growth of Caoutchouc-yielding trees may not be sufficient to determine their producing Caoutchouc.

The Indiarubber of Para (*Hevea brasiliensis*) has already been introduced into India. It proves to be capable of easy propagation at Kew by cuttings. I am endeavouring to obtain additional supplies of the seeds, but these rapidly lose their germinating power. Hardly 1 per cent. of the seeds have hitherto reached us alive.

My attention has been drawn to the great value of the Mesquit or Screw Bean of Arizona (*Prosopis pubescens*), for the purpose of cattle-feeding in hot-dry countries. It would be, probably, extremely valuable in South Africa and Australia. I have taken steps to procure a supply of the seeds, but nearly all those at present received have been killed by the attacks of a small boring beetle.

I have received both from the "Challenger" and "Transit" expeditions seeds of the Pringlea, or Kerguelen's Land Cabbage. Although a large number of fine young plants were raised, they have nearly all perished during last summer. As a similar ill fate has befallen this interesting plant at the Botanic Gardens of Paris, Cape Town, and Edinburgh, I can only conclude that it is very intolerant of warmth. Its destruction has also been hastened by the attacks of the White Cabbage rust (*Cystopus*).

## NOTES AND GLEANINGS.

We have reason to believe that the GREAT FRUIT SHOW of the Royal Horticultural Society, which is announced in the

schedule to be held on November 8th, will be abandoned. The Council will be quite justified in doing so, thereby husbanding the funds of the Society for more important uses. The local Fellows and the public seem to be tired of shows, and it is high time that public bodies realised that fact.

— THE THUNDERSTORM of Sunday night broke over Hornsey and Tottenham with terrific force at eight o'clock, and appears to have expended itself upon the district of High Cross, Tottenham, where the destruction to property has been very serious. Scores of residences with large grounds and conservatories have suffered with a severity unexampled in the history of the village. The hailstones were the size of a marble, and not even plate-glass was proof against them. The splendid vineries of Mr. Rochford, Mr. Leschellas, and Sir Charles Reed have scarcely a pane of glass left, and the roads and gardens are covered with the debris of fine Elms and Chestnuts forming the well-known avenues near the Friends' School by Page Green. Birds were killed and lamed, and rookeries were disestablished. The poor have suffered greatly. Heaps of ice stones are still lying on the roadsides, and when examined these stones are of a green colour in the centre, while the outer crust bears a close resemblance to an acidulated ball. The market gardeners in the neighbourhood have lost all their season fruits, and damage by water is extensively reported.

— ONE of the finest sights to be seen in the way of Grape-growing at the present moment is the MUSCAT HOUSE at MESSRS. LANE & SON'S nurseries at Berkhamsted. Frequenters of all the great exhibitions have for many years been familiar with the wonderful collections of Grapes that have been shown by Messrs. Lane, but the past presents no comparison with the present. The size and symmetry of the bunches, the size and colour of the berries, and the wonderfully even and abundant crop, are sights worth seeing. There are other houses consisting of Frankenthal, and many of the newest kinds, which are also highly worthy of inspection.

— DR. SCHOMBURGK, Director of the Adelaide Botanic Garden, has issued, as usual, his very full and satisfactory report. He states that the large trunks of *ENCEPHALARTOS* will lie for years in a dormant state before showing signs of fresh growth. "In 1873 the Director of the Botanic Garden, Natal (Mr. Keith) informed me that, by a vessel bound for Melbourne, he had sent a case with very large trunks of *Encephalartos natalensis*. This ship arrived in Melbourne; but, notwithstanding my inquiries, I could hear nothing of what had become of the case, and I believed that it had been lost or got into other hands. Nearly half a year after a friend of mine visited Melbourne, and having some business in one of the Government bonded stores, saw there a case with my address. On making inquiries he was informed that the case had arrived from Natal, and had been lodged in the bonded store and not yet claimed. I received the case about half a year after arriving at Melbourne. The *Encephalartos* showed not the slightest sign of life; the straw in which they were packed had rotted, and I gave them up for lost. They were planted, however, in large pots, and placed in one of the stove houses; but, in the course of nearly two years showing no signs of life, they were placed underneath the plant stage, where they stood another half-year, until about four weeks since, when, to my surprise, I observed the appearance of young growth, and the leaves expanded with such rapidity that in the course of four weeks they have reached the length of nearly 5 feet, show a healthy appearance, and will form two magnificent specimen plants. After being three years in a dormant state I never expected that life still remained in their large ovoid stems."

— IN reference to the CRACKING OF GOLDEN CHAMPION GRAPE, a correspondent states as a remedy that "if the lateral on which the bunch grows be cut half through as soon as the first berry cracks no more of them will crack. This and several other Vines of similar luxuriance of habit should be cropped very heavily, or else have the laterals cut just as the Grapes are taking the second swelling."

— BONES rendered soluble are one of the most generally useful of manures, and as many of our readers do not know of the readiest mode of rendering them soluble, we copy the following notes from "The World of Science":—"In a well-made mixture of wood ashes, lime, and fresh bones that is kept well moistened with manure water or house slops for six or eight weeks, the bones would probably become softened to such a degree that they could be broken-up with the spade on

turning the pile over. The larger the proportion of ashes used the more rapidly the desired change will proceed. In the description of one of the methods above alluded to, a peck of slaked lime and a peck of sal soda are added to every barrel of unleached ashes, and this mixture is packed in alternate layers with the bones in a tight box, and the whole well moistened, as usual. It is stated that with such treatment the bones will become softened in from four to six weeks, so that they can be easily crumbled with the spade. In another mode of treatment, where ashes alone are used, a few months are required to soften the bones. According to still another method of treatment a pile is made of alternate layers 6 inches thick, of bones and unslaked lime; the pile is covered with earth, and water is poured in from time to time through holes made in this covering, the whole quantity of water added being considerably larger than what is required to slake the lime; the heating of the lime, together with the action of the caustic milk of lime that results from the use of a large quantity of water, unite to convert the bones into a soft friable mass in a short time; the pile heats and ferments for six weeks or more, and it is to be inferred, though it is not so stated directly, that the operation is completed in this time. It is likely that if unleached ashes were used also in this case, together with the unslaked lime, the operation would be finished in a shorter time, and a more valuable product would undoubtedly be obtained."

"We had," writes a gentleman to us from Lincolnshire, "the most extraordinary ice shower on the 21st inst. that I ever saw in winter or any other season. The ice fell in all shapes—zigzag, indented squares, oblongs, and in all angles. Some of the pieces were  $1\frac{1}{2}$  inch wide and some an inch thick. I have made drawings of many of them. Nothing of the sort has occurred within my memory before. It was quite a phenomenon."

From many districts accounts have reached us of the disastrous result of the late thunderstorms. Glass has been broken, flowers have been destroyed, branches have been cut from the trees, and grain crops have been much injured. Yet the storms have been by no means general, for while some localities have been flooded, others not far distant from them have remained unrefreshed and garden crops are withering under the burning sun, pastures are scorching up, and the leaves are falling from many deciduous trees, owing to the long-continued heat and drought.

At the annual exhibition of the NATIONAL CARNATION AND PICOTEE SOCIETY the collections of twelve blooms must be shown in boxes of the following dimensions—from centre to centre,  $3\frac{1}{2}$  inches; from centre to outside,  $2\frac{1}{4}$  inches, outside length,  $15\frac{3}{4}$  inches; width, 12 inches; depth,  $4\frac{1}{2}$  inches; to be painted a bright green. A good exhibition is anticipated.

At Deeside, Aberdeenshire, a few weeks ago, opposite Ballater, where the channel of the river Dee divides and forms two small islets each being 300 to 400 yards long by 100 broad, the surface of both of these islets was completely clothed with *LUPINUS POLYPELUS* in full flower. It was a most gorgeous sight. On inquiring of the landlord at the hotel at Ballater how those plants had become apparently so naturalised there, he could only say they were "Lupines," and it was supposed that the roots had been thrown-out from some gentleman's garden farther up the river, and had been carried down by the river and settled in those localities.—J. F., Haddington.

[This Lupine is quite hardy and produces a large quantity of seeds, and these would soon cover a large space with plants.]

### NIEREMBERGIA GRACILIS.

SOME years ago this plant was extremely popular as an edging plant, also for hanging baskets, vases, &c. Lately it has appeared to have gone out of fashion, succulents and Lobelias being regarded as the "correct things" in edging plants. That these plants are attractive is freely admitted, but that they are so much so as to drive out of gardens Nierembergias cannot be conceded.

The chaste and compact growth of *Nierembergia gracilis*, its slender foliage and conspicuous yet delicate flowers, constitute it an edging plant of the first rank. Especially is it effective during the present hot and dry season—surpassing, indeed, almost any other edging plant in the garden. It appears to rejoice in heat, and drought does not harm it; and for light soils in dry districts it is certainly worthy of extended cultivation. It is a free-growing plant, and is rarely affected by insects or

disease. For window boxes, vases, and hanging baskets it is one of the very best of plants that can be employed. For greenhouse and conservatory decoration in spring and early summer large plants of it are most effective; indeed, both for house and garden culture it is a valuable plant, and when well grown will never fail to have many admirers.

A stock may be provided by taking cuttings at the present time, inserting them in sand and placing them in a close frame. These may be wintered in a light greenhouse, and be potted-off in spring; and the stock may be further increased at that time, when cuttings strike readily in heat and speedily grow into flowering plants.

As the propagating season is at hand let me urge that a few potfuls of cuttings of this elegant plant be struck, and especially by those who have light soil to deal with and reside in dry localities. In such a soil and district edgings formed of this plant are by far the most satisfactory and attractive in the garden.—J. J., South Notts.

### MIXED BEDS.

By mixed beds I do not mean the old English mode of planting a great variety of plants in the same bed or border, but simply the mixing of two plants together, each of which heightens the effect of the other. Perhaps "duplicate bedding" might be an appropriate term to use, for it is filling one bed with two kinds of plants.

An occasional bed of this nature may be seen in most large gardens and public parks, and beds which have been probably so planted because plants of a given kind have not been sufficiently plentiful for forming "self" beds. They may have been planted with regret—a regret, however, which in many instances has been succeeded by admiration. I know more than one garden where mixed beds, planted in the first instance from necessity, are now systematically arranged, and the effect they produce is of the most pleasing character. Since *Violas* (Pansies) have proved so adaptable for bedding, these plants are now freely associated with *Geraniums*, and the effect of such a combination is not only extremely good, but the beds are gay during a longer period than could possibly be the case where their mixture has not been adopted. Take any of the free-flowering blue or purple Pansies and associate them with variegated *Geraniums*, and the bed is gay from the day it is planted until the season for flowers has passed away. The value of Pansies for this mode of decoration is undoubtedly great, and cannot fail to contribute powerfully to the attractiveness of a garden.

Other mixed beds are also very beautiful. Plant, for instance, a large bed with *Centaurea ragusina* and *Verbena venosa*, and it will probably be considered the best bed in the garden. The rich purple trusses of the *Verbena* resting on the silvery ground have a most agreeable effect and cannot fail to be admired. The old *Manglesii* *Geranium*, which is one of the finest of all variegated bedding plants, associated with Purple King *Verbena* makes a remarkably attractive bed; and perhaps even more rich is a combination of the same *Geranium* with Crimson King *Verbena*. *Gnaphalium lanatum* mixed with blue Pansies and purple Asters produces an effective arrangement—the Pansies doing duty in early summer, the Asters continuing their beauty into the autumn. That mixture makes a very fine bed. Yellow Pansies mixed with *Iresine Lindenii* or *Perilla* produce an exceedingly rich combination, and if white Asters are also dotted in the bed in autumn it is as attractive as it was in the summer. A bed of mixed Pansies dotted with mixed *Pentstemons* has a long and attractive charm, and is full of interest and real beauty for at the least six months. A large bed planted with these two plants alone is almost a flower garden in itself.

There are other effective mixtures, but these named have been noted as having given great satisfaction to the numerous visitors to a large and celebrated flower garden. Those having proved other combinations to be specially attractive would by mentioning them convey useful information, for this mode of occupying flower beds is, I am told by a gentleman who travels a great deal, growing and spreading.—J. McK.

### DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

#### HARDY FRUIT GARDEN.

WE have in previous numbers remarked that when wall or other fruit trees are in good health there is little danger to be

incurred from thinning-out the fruit early. When the trees are overloaded with fruit a portion of it may be thrown off, but it is not so when it has been regularly thinned-out and only the best fruit left. Peaches and Nectarines have now passed through the stoning period, and if more fruit has been left upon the trees than is intended to remain for a full crop it ought to be removed at once. Plums and Apricots are further advanced, at least the earliest sorts. We have Rivers's Early Prolific now changing colour on bushes and pyramids. This is an excellent Plum, not only valuable for its earliness but also for its free-fruited qualities. Just a word in passing on thinning fruits. Many gardeners ruin their trees from a laudable ambition to grow large crops; they allow too many fruits to remain on the trees, and none of them grow to the largest size. Another great mistake is allowing the fruit to remain too long on the trees before removing that which is superfluous. The test of good culture is size of fruit combined with weight of crop, and this can only be obtained by judicious thinning. It is not impossible to overthin. A tree that would ripen perfectly, say, twelve dozen Peaches, would not produce better fruit if six dozen of them were removed in an early stage of their growth; the tree would perhaps grow too strongly, and the balance would not be maintained correctly. Much depends also upon the health and vigour of the tree. If the young growth is very luxuriant more fruit should be allowed upon a given surface than when the growth is moderate or weak. It is when trees are weak and not over-healthy that the most mischief ensues. The fruit sets more freely on such trees than upon trees of vigorous growth. The quantity of Peaches that a healthy tree of moderate growth ought to bear is one to every square foot. A tree trained to a wall surface 12 feet high by 20 feet wide would bring to maturity 240 fruit. Our dwarf and pyramid-trained trees have not yet been looked over to thin-out and cut-back the young wood; it ought to have been done, but other work has prevented it. The trees are very lightly cropped, and the fruits have not in any case required to be thinned-out.

The ground is being prepared for Strawberry plants by trenching, and the runners have been removed from the plants, but we must wait until rain comes before planting them out. To free the leaves from mildew and red spider they have been dipped in water wherein soft soap has been dissolved, some tobacco juice and flowers of sulphur also being added.

Raspberries have very nearly all been gathered, and the young canes that will bear fruit next year have made good growths. These are sometimes tied-up to the sticks at this time, but we prefer to let them hang loose, so that they may be fully exposed to the sun and air. The leaves are also frequently broken in tying them up, and the buds at the base of those leaves cannot become matured. Other small fruits have ripened very rapidly, and as no rain has fallen we had ample opportunity to gather it for preserving purposes.

#### VINERIES.

The main difficulty with Vines from which the fruit has been cut early in the season is to keep the leaves in a healthy state. Even under the best management red spider will be present to do mischief, and the leaves fall off from the attacks of this pest or other causes, the result being that the Vines will start into growth before their time, and the more young growth there is made so much the more difficult is it to start the Vines next season. To prevent this early growth the house must be kept as cool as possible. Our houses have the ventilators open to their fullest extent night and day, and any growths that are formed are at once stopped. The house is always hottest at that part nearest the glass and coolest at the surface of the border, so that it is best to lower the Vines if the leaves are shed about this time, or indeed any other plan may be tried to retard growth. The weather has been very favourable to the ripening of white Grapes. Muscats and Buckland Sweetwater enjoy plenty of sunshine; it is not quite safe to expose the fruit too freely to the sun, as the skin is frequently injured, the berries most fully exposed becoming rusty. Some time ago we were recommended to expose Muscats to the sun by pushing the leaves aside and tying the bunches up, so that they hung in a sloping position to the sun. This may do in northern districts, but in the south the berries will not stand it. Ours were sadly marred in consequence. They were intended for a fruit exhibition, but were quite unfit for that purpose. In the later houses the berries are now colouring; and in that where Lady Downe's are grown the ventilators require to be open night and day to prevent the berries from becoming scalded. There must be something peculiar in the constitution of this sort, as no other grown in the same house and under precisely similar circumstances becomes injured from this cause. Although the weather has been very sultry by day, the dewfall at night is sometimes considerable, and as the ventilators are open the Vines have the benefit of this, and no artificial heat being required it is better not to damp-up the houses at night.

Vines in pots for very early forcing ought to be matured as speedily as possible—not by starving them for want of water, but by placing the pots where the Vines can be freely exposed to

the sun. They will stand a great amount of heat at this season of the year. The footstalks of the leaves should be short and stout, and the leaves ought to feel hard and crisp in the hand, and be of a dark green colour. If they are too crowded in the house, and no suitable position can be obtained for them under glass, some of them may be removed under a wall facing south or west. The canes should be nailed against the wall without injuring the leaves; here they may be syringed and watered the same as those in the house.

#### CUCUMBER AND MELON HOUSES.

The last sowing of Melons may now be made to obtain fruit in October and November. The plants must be grown in a heated structure, and to be fairly successful they must be trained to a trellis removed about a foot from the glass. We still prefer for this sowing Victory of Bath and Scarlet Gem. The seeds ought to be sown in bottom heat, and when the plants are potted-off they should be again returned to the plunging material. When they are well established in 6-inch pots plant out in the beds prepared for them, which should be good turfy loam with the addition of a little decayed manure—about one sixth part. The mould ought to be pressed firmly about the roots of the plants when they are put out in the beds.

Cucumbers may also be sown for autumn and winter supply, and the treatment required is very similar to that of Melons; but Cucumbers delight in a richer and more open soil. It is much the best method to train the plants to a trellis similar to that used for the Melon plants. We never grow Cucumbers in dung frames now either for summer or winter supply, the fruit obtained from a trellis being so much superior in appearance to that which has been lying on the ground in a frame. One side of such fruit is often of a dirty yellow colour, and never of the lively green hue of the upper or side that has been exposed; and when they are grown for exhibition, if the judges remove the fruit to examine it all round, it would not compare favourably with that from a house.

#### PLANT STOVE AND ORCHID HOUSES.

Owing to the excessively high temperature out of doors no artificial heat has been needed in any of these structures; the plants are all making very healthy growth. Many plants again require repotting, and this is being done as opportunity offers. We shut up with sunshine about 4 p.m. when the houses have a south aspect, and an hour or more later with a west exposure. Plants that usually suffer from the attacks of red spider are freely syringed with clear water to prevent the appearance of this pest. Climbing plants, such as Allamandas, Clerodendron Balfourii, Stephanotis, &c., run rampant at this season; the growths must be thinned out, and those that remain be trained into suitable positions. Such plants in good health when in flower have a fine effect trained to wires over the plants underneath, but there are many disadvantages. If the water is applied with force from a syringe it falls on the plants underneath in the form of a heavy shower, and this repeated daily does much mischief. If the plants are not kept clean by syringing red spider attacks them and spreads on to other plants. The best way is to grow only a few branches to each plant and keep it clean by sponging the leaves with soapy water.

Cool Orchids suffer from the effects of the heat, and shading with thick canvas is injurious to the plants, causing weakly growths. Our house is now shaded after a plan which has been adopted for some years with success at the Messrs. Veitch's Royal Exotic Nursery, King's Road, Chelsea. The shading is elevated about a foot above the glass by means of stout laths running parallel with the rafters and fixed to them by iron rods about a foot in length, one at top and another near the bottom of the rafter. When the shading is held in position this way the air has a free circulation between it and the glass. We syringe some of the New Grenadan Odontoglossums and Peruvian Masdevallias overhead twice daily. Many species of Orchids are benefited by a free use of the syringe in hot weather. Cattleyas, Vandas, and Aërides ought not to be syringed.—J. DOUGLAS.

#### TRADE CATALOGUE RECEIVED.

J. Linden, Ghent, Belgium.—*Catalogue of Azaleas, Camellias, &c.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

ABERDEEN (Royal Horticultural Society). July 26th, 27th, and 28th. Mr. Archibald J. Rennie, 123½, Union Street.  
BRIGHOUSE. July 29th. Messrs. C. Jessop & E. Rawnsley, Hon. Secs.  
SALTAIRE. July 29th. Mr. G. A. White, Hon. Sec.  
KILBY (Flowers). August 1st. Mr. C. E. Bracebridge, Sec.  
HEWORTH (Horticultural). August 2nd. Mr. R. H. Faltoe, Hon. Sec.  
RAWNSTALL (ROSENDALE). August 4th and 5th. Mr. M. J. Lonsdale, Sec.  
SOUTHAMPTON. August 5th and 7th. Mr. C. S. Fudge, 39, York Street, Sec.  
FINEDON. August 7th. Mr. G. C. Mann, Sec.  
TAUNTON DEANE. August 10th. Mr. F. H. Woodforde, M.D., and Mr. Clement Smith, Hon. Secs.



**FILEY.** August 11th. Mr. Walter Fisher, Hon. Sec.  
**OTLEY.** August 12th. Mr. Alfred Suttle, Hon. Sec.  
**CLAY CROSS.** August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec.  
**WESTON-SUPER-MARE.** August 15th and 16th. Mr. W. B. Frampton, Sec.  
**PRESTON.** August 16th and 17th. Mr. W. Troughton, Hon. Sec.  
**SHEWSDURRY.** August 16th and 17th. Admitt & Naunton, Hon. Secs.  
**LEDBURY.** August 17th. Mr. J. B. Massfield, Hon. Sec.  
**NORTON, NEAR STOCKTON-ON-TEES.** August 18th. Mr. C. Turner, Sec.  
**MIRFIELD.** August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.  
**CALNE (WILTS).** August 22nd. Mr. H. Blackford, Sec.  
**NEWBURY.** August 22nd. Mr. H. Seymour, Hon. Sec.  
**DOBSET COUNTY.** August 23rd (at Dorchester). Mr. A. Pope and Mr. C. Parsons, Secs.  
**CHEPSTOW.** August 23rd. Mr. R. Thorn, Hon. Sec.  
**CARRHALTON, WALLINGTON, AND BEDDINGTON.** August 24th. Mr. J. Baines, Leicester House, Carrhalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.  
**LARES AND FAIRLIE.** August 25th. Mr. D. G. Glen, Hon. Sec.  
**SEATON BURN.** August 26th. Mr. R. Richardson and Mr. W. Elliott, Secs.  
**ISLE OF THANET (MARGATE).** August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.  
**POCKLINGTON.** August 31st. Sec., Mr. J. E. Ross.  
**YARMOUTH.** August 31st. Mr. S. Aldred, Hon. Sec.  
**THORNTON HEATH.** September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.  
**MONTROSE.** September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.  
**DUNDEE (International).** September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.  
**GLASGOW.** September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.  
**ROYAL CALEDONIAN HORTICULTURAL SOCIETY.** September 18th.  
**KILMARNOCK.** September 14th. Mr. M. Smith, 11, King Street, Sec.  
**IPSWICH.** September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.  
**NORTHAMPTON (Chrysanthemums).** November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.  
 Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

**BOOKS (H. T. F.).**—T. Hogg's "Treatise on the Carnation, &c.," and Mad-dock's "Florist's Directory." But you will find an epitome of all in our manual "Florist's Flowers."

**PRESERVING THE SCENT OF FLOWERS (W. J. C.).**—Jasmine, Rose, or any other flowers may have their scent preserved by the following mode:—Place them between thin layers of cotton wool, dipping these into the finest olive oil, and sprinkling a small quantity of fine salt on the flowers alternately until an earthen or wide-mouthed glass vessel is quite full. Tie the top close with a bladder, and place the vessel in a south aspect exposed to the heat of the sun, and in fifteen days when opened a fragrant oil may be squeezed away from the whole mass, little inferior, if Roses are made use of, to the dear and highly valued otto or attar of Roses.

**STRAWBERRIES FOR EXHIBITION (G. F. W.).**—As you have Sir J. Paxton and Dr. Hogg you may add to them President and James Veitch. If you cut off the leaves of Sir J. Paxton do so now.

**GRAPES IN GROUND VINERY (J. J. M.).**—The Grapes cracking is caused probably by giving too much water and too little ventilation. We water moderately twice a-week, leave the glass partly open night and day, and never syringe. Our Grapes never crack.

**GRAPES SHADED BY LEAVES (F. J.).**—Unless far more numerous than usual the Vine leaves will aid instead of checking the Grapes colouring.

**DRAGON'S BLOOD FOR PANSIES (Q. M. R.).**—Whoever recommended such an application could not have known what he recommended. It is a resin not soluble in water.

**DIVIDING PROPOSED VINERY (W. H.).**—We should not divide the vinery into two compartments—i.e., one for early and the other late Grapes, which would necessitate two sets of heating apparatus, though one fire would do for both, and you would need to have a higher temperature for a considerably longer period than were the house in one compartment. Late Grapes are the most profitable, such as will hang in good condition until the summer Grapes are past.

**CUCUMBER PLANTS INFESTED WITH RED SPIDER (A. B.).**—The leaf sent us was smothered with red spider, many alive when it reached us. If all the leaves are in the same condition as that sent there is no hope of the plant's recovering so severe an attack. Remove the worst infested leaves and syringe the plants morning and evening, keeping the floors and every available surface wet during the day. If in beds water overhead every afternoon and shut up the frame early (about four o'clock), the sprinkling being just previously applied, and if the sun be powerful shade for an hour. Your only hope is in fresh healthy growth, removing the old leaves gradually as new growth is made.

**VEGETABLE MARROWS NOT SWELLING (G. V. C.).**—It usually arises from the soil being too dry. Give them a thorough soaking of water. The waterings you have given were no doubt insufficient, or applied after the mischief was done.

**ANTS ON ROSE BUSHES (Red Hill).**—They do no damage to the bushes, and are only found where green fly clusters on the shoots. There is a sweet substance dropped by the aphid tribe which ants are fond of, and it is solely for this that they go on Rose bushes.

**ROSES (X. Y. Z.).**—Bessie Johnson is an excellent light pink. Maréchal Niel and Baroness Rothschild are for outdoor culture. (G. J. Barnesby).—Such sports are not uncommon. (E. T.).—If you water the roots abundantly daily and keep the surface mulched you will probably prevent the mildew. (T. E. C.).—We cannot name any florists' flowers that have hundreds of varieties nearly alike.

**SEAKALE (H. W. S. C.).**—The strong seedlings may be forced next year. You mention a Rose leaf being enclosed, but it wasn't.

**MANURE (E. C. O.).**—As you cannot obtain stable manure you must use guano and have all the weeds and leaves rotted in a heap, pouring over it some ammoniacal liquor from the gasworks.

**MELON LEAF SPOTTED (N. N.).**—The brown spots are not caused by red spider. Apply a little weak tepid manure water to the roots. Keep the air moist and ventilate freely.

**IVY ON CHURCH WALLS (A Reader).**—Builders object because Ivy renders repairs needless. We know that it is both protective and ornamental.

**AMERICAN BLACKBERRIES (G. D.).**—Cultivate them as Raspberries are cultivated. Liquid manure may be given now. The surface of your heavy soil should be mulched over their roots.

**STRAWBERRIES FOR LIGHT SOIL (Runner).**—Keen's Seedling, President, and Frogmore Late Pine. Trench the ground and have the surface mulched.

**HOLLYHOCK LEAF DISEASED (A. N.).**—It is destroyed by a fungus. Abundant watering of the roots and keeping the surface of the soil thickly mulched would probably have prevented it. The old-woman-and-knife remedy is the only mode of extirpating the weeds from your lawn.

**SHRUBS AND TREES FOR SEASHORE (S. S.).**—Evergreen Oak, Pinus insignis, P. laricio, with Sycamore and Turkey Oak, are what we advise of trees; and of shrubs Tamarisk, Alaternus, Brooms, double Gorse, Eucynymus, Escalonia macrantha, Hollies, Elders, Sea Buckthorn, and Guelder Rose.

**GERANIUMS (J. N.).**—The three are handsome and vigorous. We cannot name any florists' varieties; they are too numerous, and nearly alike to others.

**SHADING FOR A PLANT STOVE (J. P.).**—A portable shading is preferable to a fixed one, as the former need only be used when required. We certainly advise you to use the blind, although the material is somewhat stout. It will only need to be down when the sun is powerful. By careful and correct management it will afford you considerable aid, and we should prefer it to the whitewash.

**BLACK FUNGUS ON VINE LEAVES (J. M.).**—We can only repeat that the vinery is mismanaged, or the leaves would not have been so severely affected. More ventilation and attention to the foliage would have banished the disease. The other plants being unscathed is no guide.

**MAGGOTS IN ONIONS (Porter).**—Nothing will destroy the maggots without destroying the Onions. Preventing the sawflies depositing their eggs in the bulbs is the course to adopt another year. Pull up all Onions that have maggots in them and destroy them. Every maggot will become a chrysalis and produce a parent fly next year.

**NAMES OF PLANTS (Beckenham).**—1, Barren, and therefore indeterminate; 2, *Asplenium diversifolium*; 3, *Davallia dissecta*; 4, *Pellaea geraniifolia*. (E. M. Body).—*Cystopteris fragilis*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### A MIDNIGHT ADVENTURE.

A FEW days ago I removed a couple of hens from broods of chicks with which they had been cooped nearly a month in a croft close by my rustic dwelling, and by an odd coincidence, if it be one, found next morning that an enemy had been in the camp during the night, for there lay within a yard of its coop the remains of a month-old chick half eaten. Some guessing took place as to who or what could have been the marauder, but my gardener was positive that "it mun ha' been that black cat o' Brown's," which he forthwith requested permission to "mak' end on," on my account of course. It was certainly suggestive that the most weakly among the several dozens of various sorts and conditions of chickens running practically at liberty about the spot should have been selected, because the fact seemed to imply that its captor had been just nimble enough to catch it, and therefore scarcely so active as a cat; besides which I thought a cat would probably have made a heartier meal than half of so small a chick, supposing it had not, cat-like, first carried it off altogether. So "that cat o' Brown's," though under sore suspicion, escaped molestation for the present—at all events till it should be seen what another night should bring forth.

The next evening the chicks were all left safe, cuddled up together in their coops pretty much *à fresco*, and with two acres of croft and garden open to them in which to scatter and take refuge in case of attack. Sure enough an attack came. A little before midnight I was roused from my first uneasy attempt at slumber—the weather being a trifle of the warmest even for July—by loud and most piteous cries from my chicks, the more audible inasmuch as the open window looked down almost straight upon their harbourage. In a very few moments I was down among the affrighted and distressed chicks in no little excitement and the airiest of costumes; but though chicks were to be heard calling all over the place, nothing, except one or two of themselves, was to be seen. There seemed nothing for it but to hope that the little creatures would be too active for their enemy and keep out of its reach; but hardly had I returned to my room before the same distressful cries arose again, and once more, costume as before, I tried to discover the nature of the foe evidently so feared by my poor chicks. As I stood beside

one of the coops a chick with its feathers sadly ruffled blundered in the semi-darkness against my slippered but otherwise bare foot. Its gait and appearance betokened serious injury as well as fright, and I groped after it as well as I could, but lost it in the adjoining hedge. Presently, however, it "rolled" into view again and I grabbed at it, to find, however, by most indubitable evidence that its "feathers" were too stiff, and especially too pointed, to belong to a chicken of such size. Only one kind of wild fowl could produce such a feeling as this one had caused in the hand that had grabbed it, and a certain shrivelling into itself and cessation of all motion about it, helped to the discovery that the creature was—a hedgehog! With the help of a bent stick he was speedily lifted into an empty tub standing near, and there left to his reflections till the morning, the capture and incarceration being effected just on the stroke of midnight. No further alarm occurred, and next morning the tub-head court-martial unanimously agreed that the prisoner below was undoubtedly the author of the late disturbance. Opinions differed as to the slaying and half-eating of the afore-mentioned chick, suspicion in a certain quarter being still strong against "that black cat;" but though the evidence as to this crime was merely circumstantial, it was felt to be so strong that the court unanimously endorsed the gardener's proposition to "cut 'is heed off an' bury 'im."

Since the grim sentence was carried into effect all has been peace. But is it reason or instinct that has led all the larger chicks to leave their own free and open night quarters and crowd in with their younger brothers and sisters in the coops that are protected with wire fencing, and even the biggest of them that are unable to get through the openings wait till the fence is lifted to let them in?—W. W., *Stanton-in-Cleveland*.

## CLECKHEATON POULTRY SHOW.

This Show was held on the 22nd inst. The poultry pens being neatly arranged on three sides of a field, with plenty of room in the centre. This department requires revision, as also those of Pigeons and Rabbits, the schedule being somewhat antiquated.

The entries in poultry were about equal to those of last year; but in Pigeons we thought we noticed a falling-off in numbers. Single *Game* cocks were first on the list, a Brown Red being placed first, and Pile second, and for the latter we must confess a preference. Black Reds were pretty good and well placed; the Brown Reds a moderate lot; Duckwings were in nice feather. *Dorkings* only one entry. *Cochins*, Buff pretty good; but the *Brahmas* about the best class in the Show; first and third Darks, and second Light. In Pencilled *Hamburgs* first and third were Silver, and second Gold. Blacks very good and well placed; the first about perfect, were in better order than a week ago. Spangles we should have reversed, the Golden pen being more to our taste. *Game Bantams* were, as at several previous Shows, the first a splendid pen in Black Reds. The variety of *Game* only poor. In the following Blacks won the third. Chickens.—In the Variety class Polish won. A grand pen of Spanish were first in the Variety class. A good pen of Polish were left out on account of being claimed before the judging. One chicken class was provided; first in this were Buff *Cochins*, second Spanish, extra second Light *Brahmas*, third Dark *Brahmas*, and extra third White *Cochins*.

In *Pigeons* the first-prize Carriers, Dragoons, and Antwerps, both Long and Short, were well worthy of notice; but the rest were poor.

In *Rabbits* there were only four in Lops. In bucks Any other variety the winners were Silver-Grey, the first in all respects good; the highly commended Rabbit of the same exhibitor being next best; the second only poor, and a decided mistake. Pen 5 was a nice Angora. In does an Angora was first; second a Silver-Grey, to which we preferred pen 12 of the same colour.

A good schedule would bring a good entry here.

**POULTRY**—*GAMES*.—*Cock*,—1, C. Fearmley, 2, Hm. G. Mason, 3, H. E. Martin-  
vhe, W. Bentley, J. Mason. *Black Red*,—R. H. M. Gray, 3, G. W. Brierley,  
3, H. C. Dawson. *Brown Red*,—1 and 2, C. W. Brierley, 3, J. W. Thorton,  
vhe, E. Aykroyd. *Duckwing, Blue or Grey*,—1, W. H. Mason, 2, J. W. Mason,  
3, J. W. Thorton. *Any other variety*,—1, W. J. Mason, 2, I. Walker. *DORKINGS*,  
Mitchell, *Any other variety*,—1, C. W. Brierley, 2, J. W. Thorton, 3, W.  
J. Powell, 3, S. W. Hall. *BRAHMS*, *Black*,—1, H. Beldon, 2, J. H. Beldon,  
2, W. Hall, 3, J. F. Smith. *HAMBURGS*,—*Gold or Silver pencilled*,—1, H.  
Beldon, 3, H. Robinson. *Black*,—1, H. Beldon, 2, H. Robinson, 3, C.  
Sidewick. *Gold or Silver spangled*,—1 and 2, H. Beldon, 3, F. Jagger. *BANTAMS*,  
*Red*,—1, H. Beldon, 2, H. Robinson, 3, F. Entwistle, 3, G. Noble. *Any*  
*other variety*,—1, Miss L. A. Illingworth, 2, C. W. Brierley, 3, G. Noble. *Any variety*  
*except Game*,—1, Miss L. A. Illingworth, 2, C. W. Brierley, 3, G. Noble. *Any variety*  
Shaokleton, vhe, H. Beldon. *ANY OTHER VARIETY*,—1, H. Beldon, 2 and 3,  
A. & A. H. Silvester. *SELLING CLASS*,—1, J. Powell, 2, J. Roberts, 3, S. H.  
E. Pike. *ANY VARIETY*.—*Chickens*,—1 and 2, C. Sidewick, 3, J. Roberts.  
E. M. Hall, 3, J. P. Priddy, vhe, N. Hall, 3, Bentley, J. E. Clayton.  
Ducks,—*Aylesbury*,—1, J. Walker, 2, N. Hall, 3, R. G. Rickard, 3, J. Newton.  
3, W. H. Garforth. *Any other variety*,—1, J. Walker, 2 and 3,  
A. & A. H. Silvester. *GESE*,—1, J. Walker, 2, W. H. Garforth, 3, J. Clark.  
*TURKEYS*,—1, Miss S. A. Kirk, 2, J. Walker, 3, W. H. Garf. rh.  
*Pigeons*,—*Carrers*,—1, H. Yardley, 2, J. Booth. *TUMBLERS*,—1, A. & A. H.  
Silvester, 2, H. Yardley, 3, J. Booth. *LOVERS*,—1, A. & A. H. Silvester,  
2, J. Woods, 3, S. Brier. *JACOBS*,—1, J. H. Robinson, 2, J. H. Robinson,  
3, Raper, vhe, T. Holt. *TURBETS*,—1, T. Holt, 2, G. Richardson. *ANTPEES*,—

*Long-faced.*—1 and 2, W. Ellis. *Short-faced.*—1 and Extra 3, Mrs. W. F. Entwistle. 2, W. Ellis. **SELLING CLASS.**—1, A. & A. H. Silvester. 2, T. Yates.

**RABBITS**—*LOP-EARED.*—*Buck.*—1, R. Murgatroyd. 2, J. F. Chaffer. *Doe.*—1, E. C. Ellis. 2, J. Stansfield. **ANY OTHER VARIETY.**—*Buck.*—1, S. Ball. 2, J. Armstrong. *Doe.*—1, R. Murgatroyd. 2, F. Chappel.

JUDGES.—Messrs. James Dixon and John Crossland.

BRAMLEY SHOW OF POULTRY, &c.

THIS was held on the 24th and 25th inst., when the following prizes were awarded :—

**POULTRY**—SPANISH.—**H. Beldon.** 2, **J. Powell.** 3, **T. Hersh.** COCHINS.—**1, W. Mitchell.** 2, **Miss Coates.** 3, **H. Beldon.** BRAHMAS.—1 and 3, **W. Schofield.** 2, **M. Hall.** POTARDS.—**H. Beldon.** 2, **E. Grunwell.** GAME.—1, **H. C. & W. J. Mason.** 2, **E. Aykroyd.** 3, **J. Thornton.** FENCIBLE.—**H. Feast.** 2, **J. Roberts.** 3, **M. Hall.** HAMBOURGERS.—*Gold or Silver-spangled.* 1 and 2, **H. Beldon.** 3, **T. E. Jones.** GAMES.—*Over-penciled.* 1 and 2, **H. Beldon.** 3, **Mrs. J. White.** BLACK.—**H. Beldon.** 3, **F. Popplewell Brothers.** APPROVED.—**W. F. Entwistle.** COCK.—1 and 2, **W. F. Entwistle.** 3, **W. S. Handley.** Any other variety except Game.—1, **W. Fawcett.** 2, **R. H. Ashton.** 3, **H. Robinson.** DUCKS.—*Rouen or Aylesbury.* 1 and 3, **M. Sagar.** 2 and 3, **J. R. Pollard.** Any other variety.—1, **R. H. Ashton.** 2, **S. M. Sagar.** 3, **H. Beldon.** 4, **A. Bennett.** 5, **C. H. Smith.** 6, **G. Chubb.** CHICKENS.—1 and 2, **M. Sagar.** 3, **H. Beldon.** MITCHELL CLASS 7 TO 15 AND 2, **W. F. Entwistle.** 3, **T. E. Jones.** SELLING CLASS.—1, **J. Powell.** 2, **Mrs. W. Rudd.** 3, **Popplewell Brothers.**

PIGEONS.—CARVER, 1 and *vhc*, J. Baker, 2, H. Yardley, 3, E. Mawson, POUTER, 1, W. Harvey, 2 and 3, J. Baker, TRUMPETER, 1 and *vhc*, J. Baker, 2 and 3, W. Harvey, TUMBLER—*Short-faced*, 1 and 2, J. Baker, 3, W. Harvey, BARE, 1 and 2, J. Baker, 3, H. Yardley, *vhc*, J. Thresh, W. Ellis. OWLS.—*English*, 1, J. Thresh, 2, J. Baker, 3, R. Woods, DRAGON.—*English*, 1 and 2, R. Woods, 3, C. A. J. H. Pearson, *vhc*, C. A. J. H. Pearson, A. McKenzie, R. Woods, J. Baker, JACOBIN, 1, W. Harvey, 2, J. Baker, 3, T. Holt, FANTAIL, 1, J. F. Loversidge, 3, J. Baker, TURBIT, 1, Miss F. Seaton, 2, R. Woods, 3, J. Baker, TUMBLER.—*Bald or Beard, Long-faced*, 1, R. Woods, 2, W. Ellis, 3, A. McKenzie. *Any other variety*, 1, W. C. Moody, 2, W. Ellis, 3, Barnes and Cosford, MAGPIE OR SWALLOW, 1, J. E. Crofts, 2, T. F. Rackham, 3, E. North, NUN, 1, Miss F. Seaton, 2, J. E. Crofts, 3, H. Turner, ANY OTHER VARIETY, 1 and *vhc*, J. Baker, 2, H. Yardley, 3, Miss F. Seaton, ANTWERP, 1 and 2, W. Ellis, 3, W. Ellis, *Short-faced*, 1 and 2, W. F. Entwistle, 3, M. Ratchiff, *vhc*, W. Ellis, *Long-faced*, 1, W. F. Entwistle, 2, W. Ellis, 3, J. Buckle, *Short-faced*—*Hen*, 1 and *vhc*, W. F. Entwistle, 2, Tordoff and Wilkinson, 3, W. Ellis. *Any other variety*—*Hen*, 1 and 2, W. Ellis, 3, J. Dickinson, LIKELIEST BIRD FOR FLYING PURPOSES, 1, W. Reynold, 2, A. Brotherhead, 3, G. Gomm, *vhc*, A. Webster, W. Harvey, SELLING CLASSES.—*Price not to exceed 2 s*—2, Barnes & Cosford, 3, V. Ratchiff. *Price not to exceed 40s.*—1, Tordoff & Wilkinson, 2, W. Ellis, 3, W. Harvey.

2, *Extra*, 1, *Lord*, 2, *W. Ennis*, 2, *W. Harvey*.  
 2, *ABSBITS*, 1, *W. Ennis*, 1, *W. Harvey*.  
 3, *J. Hume*, 5, *W. T. Miller* & *Aughbon*, *Brown-coloured*, *all properties*—1 and  
*Extra*, *E. Pepper*, 2, *Mander* & *Walker*, 3, *T. & E. J. Fell*, *whc*, *J. Noble*, *jun.*,  
 3, *J. Hume*, *SILVER-GRAY*—1 and *Extra*, *S. Ball*, 2, *J. Firth*, 3, *J. T. C. Ball*,  
*whc*, *Golightly* & *Barrs*, *W. Firth*, *J. H. Bury*, *HIMALAYAN*—1, *Foster* and  
*Chambers*, 2, *T. & E. J. Fell*, 3, *J. M. Atkinson*, *ANGORA*—2, *H. Sugett*,  
 3, *T. Myton*, *whc*, *R. Murgatroyd*, *H. C. Holloway*, *W. White*, *DUTCH*—1, *Mrs.*  
*E. H. Firth*, 2, *R. E. Noble*, 3, *J. Roberts*, *BELGIAN*, *E. Robinson*,  
 2, *T. Myton*, 1, *S. Bailey*, *whc*, *J. S. Hartley*, *ANY OTHER VARIETY*—1, *E.*  
*Gilbert*, 2, *T. Myton*, 3, *J. Barker*, *SELLING CLASS*—1, *R. Murgatroyd*, 2, *E.*  
*Pepper*, 3, *S. Ball*.

PAGE 3  
S. W. Smith. *Buff*-1, W. Smith. 2, Mrs. M. Horn. S. S. Hainsworth. York-  
shire.-Yellow-1, J. Horn. 2, R. Pearson. G. G. Atkinson. *Buff*-1, S.  
Hainsworth. 2, J. Horn. 3, W. Chapman. YORKSHIRE OR NORTH.-Marked.  
Extra, W. Stringer. 2, Mrs. Horn. S. G. Atkinson. MULE-1, J. Horn. 2, S.  
Hainsworth. 3, J. Young. PARROT OR COCKATOO-2, G. Lightly & Barrs. 3,  
J. Aubley. *Whe.*A-BARK. BRITISH BRED-1, W. Smith. 2, E. Fowler.  
G. G. Atkinson. 3, Mrs. Horn. S. S. Hainsworth. 2, W. Stringer. S. W.  
Smith. FLEETING CLASS-1, S. Hainsworth. 2, W. Smith. 3, J. Horn.

JUDGES.—*Poultry*: Mr. W. Cannan, Bradford. *Pigeons and Rabbits*: Mr. E. Hutton, Pudsey. *Cage Birds*: Mr. W. Brownridge, Leeds.

### CASTLE DONINGTON POULTRY SHOW.

THE entries for this Show were considerably in advance of those of last year, but Pigeons had been knocked off, while two classes had been added for Rabbits. Last year the field was a perfect bog, but this year we had the other extreme, the sun being at scorching heat, but a spacious marquee being provided the birds were well protected, and also well watered and fed with Spratt's food supplied in small tins to each pen.

Buff *Cochin* cocks were a grand class of eight, and all noticed, and hens also good. The Partridge in both classes only moderate. In Dark *Brahma* cocks first was in fine order, good in shape, and well marked, and of moderate size. Second smaller and not so good in shape. In hens were two grand pairs, between which there was little choice; but in the second pen one was light, evidently just recovering from broodiness. Light *Brahma* hens were better than the cocks, although the first in the latter class was a good bird. *Houdans* bad in both classes. In *Spanish* the cocks were fair birds but out of feather, but the hens were good and well shown. The first were quite young hens. In *Game* cocks, Red, first was a well-known old Black Red, and second a Brown Red; and in hens, first a capital pair of Brown Red hens, and second Black Red pullets, the latter losing only by a slight tendency to duck-claw, which, however, they may grow out of with judicious treatment. In cocks, any other variety, the winners were Duckwings. Gold or Silver-pencilled cocks was won by Goldens in both cases, the first a true *Hamburgh*, very good in head. Second a bright-coloured bird, but ears somewhat shrivelled. Spangled cocks, a Golden bird good in all points, second a Silver-spangle of the true *Hamburgh* type, but failing in feather. Hens, winners Golden and good. Variety class, first a Gold Poland cock, which we have seen in better order; second Malay, and highly commended Silver Polands. Hens. first the best pair of birds in the Show, and in

nice bloom; these were Black Hamburgs, second Gold Polands. The chicken class was very large, thirty entries. First forward Light Brahmas; second a pair of Spanish, very good; and third Dark Dorkings. *Bantams* were mixed classes. First in cocks a most perfect Black, and second Game, but out of feather; and in hens Blacks were first, and a pair of Black Red pullets second. The Selling classes were very large, and among these were some cheap birds, especially in hens, which were—first Black Hamburg, and second Dorking pullets.

In the *Ducks*, any variety, were some capital Chilian, Teal, and Carolinas.

*Rabbits* had thirty-eight entries in the two classes. Lops were exceptionally good, and the measurements given below are honest, not having half and quarter inches allowed because "it's a cold morning." First a Sooty Fawn buck, 23 by 4½ inches, and in the pink of condition; second a Black-and-white doe, a little too gay, 22½ by 5 inches; and third a Fawn-and-white, large, good head and eye, 22 by 4½ inches, not in order for hard competition, the "highly commendeds" coming well up in point of measurement. In the following class, which was devoted to all other varieties, prizes were awarded to four Rabbits which it would be difficult to beat in their own class, and many highly deserving had to be passed over with commendations only. First was a most exquisite specimen of a Silver-Cream, second a Belgian Hare nearly perfect, third a young Himalayan, and fourth an Angora; the latter had some of its down off the centre of the back. Some very good Dutch were shown, notably one very highly commended, a Fawn only six weeks old.

**POULTRY.—COCHINS.**—*Buff*.—Cock.—1, W. A. Burnell. Special 2, W. H. Crewe. Hens.—1, W. A. Burnell, 2, E. Winwood. *Partridge*.—Cock.—1, J. Gunn. 2, S. W. Hallan. Hens.—Special 1, Rev. R. Fielden. 2, Mrs. R. Story. *Any other variety*.—Cock.—Special 1, E. Snell. 2, J. Backham. Hens.—1, W. A. Burnell, 2, W. Holbrook. *BAHAMAS*.—*Dark*.—Cock.—Special 1, J. Long. 2, J. Gunn. Hens.—1, W. Morris. 2, F. Holbrook. *Light*.—Cock.—1, Mrs. Peet. 2, G. Feast. Hens.—Special 1, Mrs. Peet. 2, G. Breeze. *DORKINGS*.—Cock.—1, E. Snell. 2, Miss Murray. Hens.—Special 1, T. Bridon. *HOCNANS*.—Cock.—1, Rev. A. Dobbin. 2, F. Holbrook. Hens.—Special 1, H. Feast. 2, J. Backham. *SPANISH*.—Cock.—1, R. Hill. 2, H. Feast. Hens.—Special 1, J. Dixon. 2, R. Hill. *GAME*.—*Black or Brown-breasted Red*.—Cock.—Special 1, J. Mason. 2, G. Richardson. Hens.—1, G. Richardson. 2, C. Spencer. *Any other variety*.—Cock.—Special 1, J. Mason. 2, D. Hulme. Hens.—1, E. Bell. 2, G. Barnesby. *HAMBURGERS*.—*Gold or Silver-pencilled*.—Cock.—Special 1, J. Long. 2, C. K. Senior. Hens.—1, C. Judson. 2, R. Kidger. *Gold or Silver-spangled*.—Cock.—Special 1, J. Ward. 2, J. Long. Hens.—1, J. Long. 2, J. E. Jones. *ANY OTHER VARIETY*.—Cock.—1, A. & W. H. Silvester (Golden Poland). 2, J. Backham (Malay). Hens.—Special 1, J. Long. 2, A. & W. H. Silvester (Golden Poland). *ANY VARIETY*.—*Young*.—Special 1, G. B. Breeze. 2, S. W. Hallam (Dorkings). 3, T. Bridon (Dorkings). 4, W. A. Burnell (Buff Cochins). *BANTAMS*.—Cock.—Special 1, R. H. Ashton. 2, E. Bell. Hens.—1, R. H. Ashton. 2, C. Adkin. *SELLING CLASS*.—Cock.—1, C. Judson (Gold-pencilled Hamburg). 2, A. & W. H. Silvester (Golden Poland). Hens.—Special 1, E. Leake (Black Hamburg). 2, T. Bridon (Dorkings). *DUCKS*.—*White*.—Special 1, E. Snell. 2, Mrs. R. Story. *Any other variety*.—1, A. & W. H. Silvester. 2, R. H. Ashton. *GEESSE*.—1, E. Snell. 2, J. Nicholson, jun. *TURKEYS*.—1, Lady P. Stanhope. **RABBITS**.—*Lops*.—*Double*.—1, C. E. Thompson. 2, E. Pepper. 3, J. A. Barrs. *ANY OTHER VARIETY*.—1, H. Gilbert (Silver Cream). 2, E. Robinson (Belgian Hare). 3, Foster & Chambers (Himalayan). 4, E. Snell (Silver-Grey). *etc.* F. Purser (Angora). T. Goltigty (Dutch).

**JUDGES.**—Rev. T. O'Grady, Ashbourne; Mr. E. Hutton, Pudsey, Leeds.

## POULTRY AND BEE NEWS AND QUERIES.

**DORKING CHICKENS HATCHED BY A PIGEON.**—Mrs. Gane, the matron of the Chippenham Union Workhouse, placed two Dorking eggs under a common Pigeon, one of the feeders of her fancy birds, and they were duly hatched, and I saw them yesterday, July 19th. Mrs. Gane had constructed a small artificial mother of flannel list, and put it in a box in the sun, and the chickens in the box. The chicks run as naturally to their artificial as they would have done to a natural mother for warmth and to be brooded. I may remark that Mrs. Gane is an ardent Pigeon fancier, a grand resource and amusement for one whose duties oblige a very constant residence at one place, as must by necessity the duties of a matron of a large workhouse. Noticing chickens hatched by a Pigeon—and in this case the eggs were of a large variety of fowl, and must have been troublesome for a Pigeon to cover—some years since a boy in this village climbed up into the rookery close to this house, took out the Rooks' eggs, and put in two from a fowl. He ascended again on the right day, and there he found two chickens. These birds I also frequently saw.—WILTSHIRE RECTOR.

The West of England Apiarian Society, by permission of the Trustees of the Pigott Estate and the Horticultural Society, will hold its first Exhibition at The Grove, Weston-super-Mare, at the same time as the annual flower show, August 15th and 16th.

## CANARY MANAGEMENT IN OLDEN TIMES.

No. 2.

In continuing my remarks from the Journal of June 15th upon Mr. Hervieux's mode of feeding and rearing young Canary birds by hand the writer further states, "Thus you see the young birds are to be fed eleven times a day without any trouble or uneasiness, the same regular hour being always observed. This last feeding [the eleventh, at three-quarters after eight for the

last time] is not always necessary, for very often the young birds are gone to rest at that time. They must not then be disturbed to feed; and if food be given to them it must be much less than at the other times, for as you may perceive there are but three-quarters of an hour between the two last feedings."

What Mr. Hervieux means by the remark "the same regular hour" I am at a loss to understand, for in one instance he allows a lapse of full two hours, and in another only three-quarters of an hour; and then he does not name at what period of the breeding season the young should have the first meal in the morning—"half-past six." This would be a late hour during June and July for young birds to be fed. From my own observations during the past week I noticed one morning in particular the parent birds feeding a nest of young at four o'clock. On the other hand, half-past six would be too early at the commencement of the breeding season; the want of sufficient daylight would prevent the birds being disturbed and fed so soon even as at that time.

But I will not be too critical in my remarks upon the chapter, which contains a few hints worthy the notice of those who may be well up in the fancy. The writer further says, "You must make a little stick very smooth and thin at the end to feed them with; it must be as broad as your little finger. Those who make use of a quill cut for that purpose have more trouble in it, because their composition not being liquid, the quill bends and is not stiff enough to take up the birds' food. You must every time give them their beak full about four times, that their craw may not be too full, which might choke them. I must also observe that there is more trouble in not following this rule than in keeping it; for besides that things do not answer so well, a man is every moment in pain to know how long it is since they were fed, and being thus concerned he goes to the little birds, who as soon as they see him do not fail to gape wide, though they have no occasion, for they would crave every half hour if they were to be regarded; then in pity you are apt to feed them, and commonly many of them die of it. . . . Those who will observe this method with their Canary birds will perceive them to thrive visibly and by degrees grow so strong and healthy that the moulting, which is their most fatal distemper, will not affect them."

Wholesome food and fresh water provided daily, with cleanliness of cages and fresh nests, more particularly during hot weather, are points to be observed over the rearing of young birds, without which neither Mr. Hervieux's fixed rules or the advice of others will avail. Again, the writer says, "After twenty-three or twenty-four days you are to forbear feeding them by hand, especially when you observe them to pick well of themselves. As for the lemon colour and mottled, you must continue feeding them thirty days, for they have much ado to learn to feed themselves. A more particular care must be taken of these birds than of others." In another part of the treatise the writer speaks thus of lemon-coloured or jonquil birds, "The young which come from the race I have spoken of are much more troublesome to rear than all other sorts, as being of a very tender constitution."

"When they (the young) first begin to feed alone put them into a cage without perches, with a little very fine small hay or moss well dried on the bottom of the cage. The first month they feed alone give them bruised hempseed, yolk of egg boiled hard, some simnel or biscuit very dry and grated, water with a little fresh liquorice in it, and a little very ripe chickweed, each of them apart in the middle of the cage."

In another chapter I will quote Mr. Hervieux's method of making a composition or paste for Canary birds.—GEORGE J. BARNESBY.

## COMB FOUNDATIONS.

THE latest apian excitement with our American cousins is a craze for comb foundations, and they have a pretty wrangle in progress as to some patent rights claimed both for using and making artificial combs, although it has been demonstrated that before the date of any American patent, impressed wax sheets were known and used in Europe. A sample of worker-comb foundation that I have seen is certainly of beautiful workmanship, rivalling the work of Nature's pupil the bee; but according to report the bulk used to execute orders is not equal to the sample. The sheets are made to any size, even in continuous rolls, and are intended to fill the frames, but the same flaw in their use is found as was the case with Neighbour's sheets—that is, a liability to become baggy as they are thinned by the bees. The bottom wall of the cells are accurately impressed, and surrounded by shallow hexagonal walls which the manufacturers claim sets the desirable worker pattern, and the walls furnish enough material for the bees to raise the structure to the requisite height. "NOVICE," the energetic editor of "Gleanings in Bee Culture," is manufacturing comb foundations of a mixture of solid paraffin and wax for cheapness' sake, but the low melting power of the former material has brought a difficulty that the cells from the mere weight of material

become oval instead of hexagonal. We all know the exquisite delicacy and lightness of newly-made unsoiled comb. I am afraid to estimate its weight, but certainly it would run considerably more than 4 square feet to the pound. That, "Novice" states, is the desirable weight of his comb foundations, which costing a dollar per lb., makes the expense of filling a Woodbury hive about 7s.—far too costly for general use in England.—JOHN HUNTER, *Eaton Rise, Ealing.*

### HONEY PROSPECTS.

"A CORRESPONDENT wishes to know what is the prospect of the honey crop this season?"

It is to be hoped that many of our readers will send their experience in bee-keeping to the pages of this Journal. I am in the habit of gathering up the results annually of some of the most successful apirians in England and Scotland, and presenting them to our readers every autumn. At present I can speak about this district only. Until the middle of June the season was the worst for bees I ever remember. Since that time they have done pretty well. Our stocks rapidly rose in weight before swarming, and now, three weeks after swarming or thereabouts, we are turning the bees out of the stock hives into empty hives. We obtain about 100 lbs. of excellent honey from every five stocks. The first swarms, though late this year, are doing well. The flowers are later than usual, as well as the swarms. We have still the chance of three weeks on the clover, and afterwards three weeks on the Derbyshire moors. A run of fourteen days of fine weather on the heather gives bee-keepers splendid harvests of honey.—A. PETTIGREW.

### ONE STOCK OCCUPYING TWO HIVES.

ONE of my stocks of bees are now displaying a most singular freak. They are working in two distinct hives as one colony. To enable your readers clearly to understand how this happened, I may state that part of my apiary consists of a closed house furnished with Woodbury bar hives arranged side by side. One of these hives contained a very weak stock, which, being very old, I allowed to take its chance. The bees have gradually diminished in numbers until the 12th inst., when I found the last of them (about a score) dead on the floorboard, and not a particle of honey in the hive. I immediately closed the perforated zinc slide at the entrance, intending to remove the hive next morning; I accordingly proceeded to do so, but first opened the top of the hive, and was surprised to find a number of very active bees inside. I then discovered the slide was not quite closed, and that the bees from the adjoining hive had taken possession. I immediately opened the slide again, imagining that a new colony had located themselves there; I, however, soon discovered that both hives were really being worked with one distinct stock of bees. They are now depositing honey in the old combs, and running (not flying) to and fro between both hives in the most friendly manner. The bees now in possession are very strong. They have completed a 30-lb. super, and to give them more room I recently added a bell-glass; notwithstanding this, upwards of two quarts of bees were clustered outside the hive previous to their taking possession of the other hive, although they are completely shaded from the sun. I imagine that the bees, finding this hive empty and being deficient of room, resolved on using it as a storehouse. I have kept bees for many years, but have never seen or heard of a similar case; perhaps some of your readers may.—W. BUCKENHAM, *Longleat.*

### HONEY HARVESTED BY SECOND SWARMS.

On the 2nd of this month we had two second swarms from 18-inch Pettigrew hives. As they did not seem very large, and it was so late in the season, we put them into a 13-inch hive. As they appeared rather crowded a super was put on two days later. On the 13th the gardener observed the bees hanging out, but as I was absent from home nothing was done. I returned on the evening of the 17th, and on the 18th the super containing rather more than 10 lbs. of the most perfect honeycomb was removed, the hive being also perfectly full. I should mention the bees were put into a perfectly empty hive and super, not even containing guide comb, and had no feeding. The hive has now been placed on a 16 inch nadir, and the bees appear to be working harder than ever. I should like to know if the hive should be left on the nadir till the end of the season, we have no heather near enough for the bees to visit, or if it may be removed sooner? Judging by the size and weight of the super we guess the hive to weigh between 30 and 40 lbs.—A. CONSTANT SUBSCRIBER.

[The second swarms referred to above have been larger than our correspondent fancied. They have done exceedingly well, and we are greatly obliged for her letter, as it contains a lesson of permanent and practical importance—namely, the possibility of getting supers filled on second swarms or turn-outs before

their queens begin to lay. In the pages of this Journal we suggested this three years ago. Young queens unfertilised go with second swarms, and in about ten days after they begin to lay. Sometimes it is fourteen days before an egg is deposited. Our correspondent's experience, and the record of it so inartificially given, will I trust be of considerable advantage to her and many of our readers. She has done well, too, in nadiring the hive, which will in a short time be well filled with honey and ready for removal from the nadir. About the 1st of August a hatch of brood will issue from the cells, when the hive may be removed for honey. We have known two swarms join each other in natural swarming, and, of course, were hived as one. They filled their hive quite full, and sent off a virgin swarm on the eleventh day after being hived.—A. PETTIGREW.]

### SYSTEMS OF MANAGEMENT.—No. 5.

#### NADIRING AND EKing.

In closing our last letter (the one on supering) we forgot to state that broad shallow hives are better for honey-gathering than deep hives, and that honeycomb is also more easily cut from them. For breeding purposes we have always considered that deep hives are better than shallow hives.

Nadiring is simply the placing of empty hives beneath full hives, and closing the doors of the upper hives. It is a simple mode of enlarging hives, which does not always prevent swarming. When both stocks and honey are wanted nadiring is resorted to. It answers best with first swarms when they have filled their hives with combs and need enlarging. In some instances we have seen it answer well with non-swarmer. In seasons rather unfavourable for honey-gathering the nadired hives did better and yielded more honey and better stocks than the hives that swarmed. With all kinds of hives the nadiring principle can be acted on. It is as complicated as supering, but more natural, inasmuch as bees like to work downwards. It gives more scope for breeding than supering, and is therefore better for multiplying populations. But very often bees build far too much drone comb in nadirs, and this is one of its greatest drawbacks, causing many bee-farmers to think twice before they introduce nadirs to their apiaries. Though we ourselves use nadirs, we would not suggest their general adoption. With early swarms and hives that are not ripe for swarming at the proper season, nadirs are sometimes used with advantage. Thus the nadired hives yield honey, and the nadirs become stocks.

Eking is a mode of enlargement which receives special regard in our apiary. It is to us of far more importance than either supering or nadiring. It is less complicated and more natural than either of them. Bees do better in one apartment than in two or more; they gather 3 lbs. in ekes for 2 lbs. in supers, and breed faster. In a former letter it was seen how we obtained honeycomb enough in good seasons from swarms in large hives without supers. Where super honey is the object of bee-keeping, supers are largely used. With us, and most bee-farmers, profit is our aim, and we find eking is safer and more certain than supering, and quite as profitable. But in some districts there is but little demand for run honey; here we readily sell all the bees can store up at 1s. 3d. per lb. for clover honey, and 1s. for heather honey. It is retailed out to our neighbours at these prices, which makes bee-keeping as profitable as anything else in our way. Virgin honeycomb we sell at 1s. 3d. and 1s. 6d. per lb.; wax at 2s. per lb.

It is not often that ekes now-a-days are used to prevent bees from swarming too early, for if swarms are obtained very early where there is not good pasture for them, a few pounds of sugar-syrup given to them will not only prevent discouragement and collapse, but give them an impulse at the commencement of their career which will not lose its power till the time of harvest. When sugar was higher-priced we have known the first ripe hives eked to prevent very early swarming. Since sugar has been cheap we take all the early swarms we can. In honey seasons both swarms and stocks require ekes or other enlargements, and the interest and aims of the bee-master must determine whether supering, nadiring, or eking be resorted to. In the absence of straw ekes riddle-rims may be used for enlarging hives. Square wooden hives may be enlarged by ekes of wood made to fit. In placing ekes beneath hives they should be securely nailed to them.

Almost all the salient points of practical management have, I think, been briefly noticed in this series of letters. The intelligence of the reader will enable him to compass and comprehend details and modifications which have been left out for the sake of brevity. I will finish as I began, by saying it is wise to have a definite system and to develop it as fully as possible. All bee-farmers should aim at an annual profit of £2 per hive. Some years bees yield very little profit, and some years £3 and £4 per hive. When very fine seasons for honey come, filling the hives to repletion, it is wise to take the honey from all the hives and create a stock by feeding the bees. In the year 1864 nine stocks belonging to a friend yielded £55 worth of



honey. His expenses amounted to £15, chiefly for sugar to create a stock to succeed those taken for honey. I reckon 40 lbs. of honey annually per stock hive for a run of seasons a satisfactory and fair return.

The system of managing bees which we have so often recommended and so long followed will be practised till the end—namely, large strong stocks, first swarms from them as early as possible, two harvests of honey in good seasons, the first from stock hives three weeks after swarming, and the second from the heavy hives (all beyond 60 lbs. weight) in September. At the first harvest the bees will be driven into empty hives to find for themselves, and in September they will be united to the hives kept for stock, or fed into stocks themselves. Though we like to have second swarms or casts we shall not seek them, for most of our hives go from home during the swarming season and are managed with the least possible attention.

But whatever system of management my readers may adopt or follow, let it be firmly and intelligently grasped, and diligently carried out and developed, for bee-keeping does and will pay. Amateurs as well as farmers should have a definite system, and be determined not to be unduly influenced by every wind of novelty.—A. PETTIGREW, *Priory Vineyard*.

## OUR LETTER BOX.

MRS. TUPPER (*J. S.*).—Not having inserted any of her communications we think it needless to copy the warnings of our American contemporaries that the unfortunate lady is not responsible.

ORNAMENTAL GOOD LAYERS (*Whaley Bridge*).—Silver-pencilled Hamburgs. Your strawberries are over-luxuriant; the soil too rich probably. Continue the mowing-off the leaves.

GREEN PARAKEETS (*Amateur*).—Keep your partly moulted bird free from draught. Nothing will conduce more to bring about good plumage than keeping birds in a cleanly condition and supplying them with wholesome food. If the Parakeet you speak of is one known as a "Bengal" you may expect the plumage not to be so bright a green as an Australian Parakeet, although of a more confirmed green colour. You may supply the birds with Canary and hemp seed, with the addition of grass seeds to the bird if a Grass Parakeet. We will give you a hint or two on exhibiting in our next issue.

FOOD FOR BULLFINCHES.—MUTILATION OF FEATHERS (*A. B. G.*).—Those who keep Bullfinches in London have not the facility of obtaining berries and buds of various kinds as food equal to those in rural districts, and as your request is for the "best green food for Bullfinches in London," we advise you to give your birds occasionally watercress, grass seeds, small salad, and a bit of apple in addition to the steeped rape seed and hemp. Furnish the latter sparingly, as it is so heating and affects Bullfinches more than other kinds of cage birds. Many instances are known of blindness or change in colour of plumage and a general wasting away occurring through a free use of hemp. Exceptions still may be found to the contrary, and much depends upon the bird's constitution and varied and confined temperature. We certainly think birds must possess extraordinary appetites when, as you ask the question, "they begin to eat each other's feathers." Apparently they may appear to be so doing. If a new quill feather should be ruthlessly drawn from a wing or tail Bullfinches and other small cage birds will extract from the stump a moisture which one might imagine was a savoury treat to them to judge from the pains they bestow to "chawel" up the quill end. It is a very common occurrence for birds to pluck and destroy each other's feathers in confinement, and the habit once acquired can only be effectually prevented by separating the birds. Many old birds (Canaries, for instance) will begin to mutilate their young as soon almost as they leave their nests, when the budding tail quills are fully charged with moisture. Birds also acquire this destructive habit to each other when the plumage is out of order or any of the feathers are disarranged, especially during the moulting sickness. We have ourselves had an instance of feather-mutilation within the past few days—that of a Mule (a pied one not to be despised either), having its flight feathers curled with the constant pulling at them with the beak of another Mule as effectually as though done with a hairdresser's curling-iron. Our remedy to straighten such feathers is to dip them in hot water for half a minute and draw them betwixt the thumb and finger, afterwards to let the birds have the benefit of a "fly" cage where they can freely bathe. Birds when limited to space are more apt to disfigure each other's feathers.

PARROT SELF-PLUCKED (*J. J. P.*).—All the varieties of Parrots are fond of gnawing, and when not able to gratify this natural propensity they bite off their feathers. To prevent your bird destroying its plumage, fasten a piece of wood inside its cage with wire, with which you will find it will amuse itself. Change its food as often as possible by giving it fruit, boiled rice, nuts, &c., and a little magnesia might be occasionally put into its drinking trough.

MOVING HIVES TO THE MOORS (*F. D.*).—The nearer bees are placed to their pasture the more honey will they gather; but at half a mile distant from a good field of heather they will collect large stores of it, weather permitting. Bees find and work on good pasture a mile distant from their homes.

COMBS MELTED (*Smallwood*).—The fact that the combs of your hive have fallen down, with honey running out and the bees clustering outside of your hive, is proof that it has not been sufficiently protected from the rays of the sun during the late very hot weather. We are sorry you have not had confidence and courage enough to put the bees into a fresh hive and take the honey at the time. In doing it now you will probably find an unsightly mess of smothered bees and broken combs inside. First get a bit of old flannel cloth or old cotton rags rolled together like a candle, and fire it at one end to smoke as much as possible, but not to blaze, and blow the smoke on the clusters outside and brush them all into an empty hive; then blow the smoke into the hive and turn it up. If all the combs are on the board, lift the combs singly and brush the bees into the hive beside those that were outside. Of course you will remove the super before you turn up the hive. With plenty of smoke and a little courage any novice could do this. There will be found much loss in this breakdown, even if the honey has not been taken by other bees in your neighbourhood. The sooner you take what honey

you can, and set your bees to work in another hive, the better it will be both for you and them.

MARRIOTT'S HIVE (*Triceps*).—Your swarm of June 1st in this hive seems to be doing well, and no doubt the bees had killed off their drones before the late splendid weather set in. Their being busy and noisy at night indicates prosperity. You may give them the wooden hive you speak of, but they will hardly make use of it. We should prefer eking the super.

PRESERVING PEAS GREEN (*J. Taylor*).—Pick them when full grown, shell them, dry them gently but thoroughly, and then store them in canvas bags in a dry place. When required for use soak them in water for a few hours until plumped-up, and then boil them. The following mode has been reported to us by a person well qualified to judge of such matters as being very successful:—Carefully shell the peas, then put them in tin canisters, not too large; put in a small piece of alum, about the size of a horsebean, to a pint of peas. When the canister is full of peas fill up the interstices with water, and solder on the lid perfectly air-tight, and boil the canister for about twenty minutes; then remove them to a cool place, and they will be found in January but little inferior to fresh newly gathered peas. Bottling is not so good—at least, we have not found it so; the air gets in, the liquid turns sour, and the peas acquire a bad taste. If any of our readers know of a successful mode of preserving peas green we shall be obliged by their communicating it to us.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876.	Barom- eter at 3 p.m. and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
July.		Dry.	Wet.			Max.	Min.	In sun.	On grass		
	Inches.	deg.	deg.	N. W.	deg.	deg.	deg.	deg.	deg.	In.	
We. 19	31.074	69.6		N. W.	69.0	80.4	59.4	128.9	53.3	—	
Th. 20	30.209	70.	63.	W.	68.9	83.2	59.0	125.8	53.2	—	
Fri. 21	30.170	71.	64.0	N. E.	70.0	84.2	57.3	124.4	53.3	—	
Sat. 22	30.445	72.6	54.7	N. E.	69.0	89.1	57.6	126.6	53.2	—	
Sun. 23	29.911	62.2	59.8	N. W.	69.4	78.2	62.2	118.9	60.5	0.027	
Mo. 24	29.951	69.3	57.7	N. W.	67.4	72.8	54.5	117.6	59.7	—	
Tu. 25	30.114	68.1	59.7	N. W.	65.6	85.0	54.0	123.7	47.8	—	
Means.	30.083	67.7	61.7		8.5	81.1	57.7	123.7	53.1	0.027	

## REMARKS.

19th.—Rather dull morning, warm and fine all day; rather more damp than it has been lately.

20th.—Very fine and hot all day, and starlit night.

21st.—Misty early, but clearing off before 9 A.M.; a fine and very warm day.

22nd.—A splendid hot bright day; particularly warm in the evening.

23rd.—Slight rain between 9 and 10 A.M., then fine till 3.15 P.M., when a slight thunderstorm commenced, lasting to 8.50, but it was very slight, and very distant to the north-east; the remainder of the night was very fine.

24th.—A comparatively cool day, with occasional sunshine and very bright night.

25th.—A very fine day, much warmer than yesterday, especially in the evening.

Slightly cooler than the previous week, but very fine summer weather, with only one trifling shower. Since June 23rd less than a quarter of an inch of rain has fallen.—G. J. SYMONS.

## COVENT GARDEN MARKET.—JULY 26.

THERE is no alteration in the prices to report from last week.

### FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	½ sieve	1	6 to 5 0	Mulberries.....	lb.	0	0 to 0 0
Apricots.....	box	1	6 1 0	Nectarines.....	dozen	6	0 to 0 0
Cherries.....	lb.	0	6 4 0	Oranges.....	dozen	100	6 0 to 12 0
Chestnuts.....	bushel	0	0 0 0	Peaches.....	dozen	6	0 to 30 0
Currants.....	½ sieve	3	6 4 0	Pears, kitchen....	dozen	0	0 to 0 0
Black.....	do.	4	0 5 0	Pears, dessert....	dozen	0	0 to 0 0
Figs.....	dozen	3	0 10 0	Pine Apples.....	lb.	2	0 to 6 0
Filberts.....	lb.	0	0 0 0	Plums.....	½ sieve	0	0 to 0 0
French.....	lb.	0	0 0 0	Quinces.....	bushel	0	0 to 0 0
Cobs.....	lb.	0	0 0 0	Raspberries.....	lb.	0	6 1 0
Gooseberries....	quart	0	3 0 9	Strawberries.....	lb.	0	4 2 0
Grapes, hothouse..	lb.	1	0 6 0	Walnuts.....	bushel	0	0 to 0 0
Lemons.....	dozen	100	6 12 0	ditto.....	dozen	100	0 0 to 0 0
Melons.....	each	2	0 8 0				

### VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	4	0 to 6 0	Leeks.....	bunch	0	4 to 0 0
Asparagus.....	dozen	1	6 0 0	Mushrooms.....	pottle	1	0 to 2 0
Beans.....	dozen	0	0 0 0	Mustard & Cress	punnet	0	2 0 0
Beet, Red.....	dozen	1	6 8 0	Onions.....	bushel	2	0 to 5 0
Broccoli.....	bunch	0	9 1 6	Parsley.....	doz. bunches	2	0 to 4 0
Brussels Sprouts	½ sieve	0	0 0 0	Paranips.....	dozen	0	0 to 0 0
Cabbage.....	dozen	1	0 2 0	Peas.....	quart	0	9 1 6
Carrots.....	bunch	0	4 0 8	Potatoes.....	bushel	1	6 0 0
Capsicums.....	bunch	0	6 2 0	Radishes.....	doz. bunches	1	0 to 1 6
Cariflower.....	dozen	1	0 4 0	Rhubarb.....	bunch	0	8 0 9
Celery.....	bunch	1	6 2 0	Salsafy.....	bunch	0	9 1 0
Coleworts.....	doz. bunches	2	0 4 0	Scorzoneria.....	bunch	1	0 to 0 0
Cucumbers.....	each	0	4 1 0	Seakale.....	basket	0	0 to 0 0
Endive.....	dozen	1	0 2 0	Shallots.....	lb.	0	8 0 6
Fennel.....	bunch	0	8 0 0	Spinach.....	bushel	1	6 0 0
Garlic.....	lb.	0	8 0 0	Tomatoes.....	dozen	1	6 3 0
Herbs.....	bunch	0	8 0 0	Turnips.....	bunch	0	4 0 6
Kidney.....	bunch	4	0 0 0	Vegetable Marrows	dozen	0	2 0 3
Lettuce.....	dozen	0	6 1 0				
French Cabbage....	dozen	1	0 0 0				

## WEEKLY CALENDAR.

		AUGUST 3—9, 1876.		Average Temperature near London.		Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
Day of Month.	Day of Week.			Day.	Night.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
3	Th			74.9	50.6	4 29	7 43	7 31	1 45	15	5 58	215
4	F	Rawtenstall (Rosendale) Show.		75.9	50.6	4 31	7 41	7 53	2 56	14	5 48	216
5	S	Southampton Show.		74.5	50.9	4 32	7 39	8 9	4 2	13	5 42	217
6	SUN	8 SUNDAY AFTER TRINITY.		73.2	50.8	4 34	7 37	8 22	5 27	16	5 35	218
7	M	Finedon Show.		74.6	50.9	4 35	7 36	8 35	6 41	17	5 28	219
8	Tu			74.5	49.4	4 37	7 34	8 45	7 55	18	5 20	220
9	W			74.9	49.6	4 38	7 32	8 53	9 10	19	5 12	221

From observations taken near London during forty-three years, the average day temperature of the week is 74.6°; and its night temperature 50.4°.

## THE CARNATION AND PICOTEE.



At the July Show of the Royal Horticultural Society a small bank of cut flowers about a score yards in length attracted much attention; they were first-rate examples of the beautiful flowers cultivated and cherished by the old florists—namely, Carnations and Picotees. It is many years since they were so well shown, and when these good old flowers are brought out as they ought to be they are as much admired as ever they were;

and those who know the Carnation and Picotee well will join with me in saying that they were better shown than the popular and easily-grown zonal Pelargonium, notwithstanding the fact that this last-named plant has a Society formed for the express purpose of collecting money to give in prizes for it, and which on the above occasion were distributed with no sparing hand. Indeed so badly grown were the Pelargoniums that the Judges had in many cases to withhold the prizes; while in the Carnation and Picotee competition some that were placed second and third well deserved a higher position.

We would fain cherish the hope that the metropolitan societies will continue to encourage the culture of Carnations and Picotees by giving liberal prizes for them. When the first exhibitions were inaugurated at Chiswick these flowers were placed in the same position (social position would be the better expression) as Grapes, Pines, and stove and greenhouse plants. In 1833 we read that Mr. George Glenny of Twickenham, Editor of the *Horticultural Journal*, received a gold Banksian medal for Carnations and Picotees, and a large silver medal was also given to Mr. Hogg of Paddington for blooms of these flowers. The florists at that time knew the properties of the flowers, and right well did they grow them up to the regulation standard.

At that time a sub-committee was formed to draw up rules by which florists' flowers should be judged; their names were James Twitchett, Richard Headly, Adam Fitch, Fred. Finch, Samuel Widnall, and Edward Catling. The following relate to Carnations:—"The flowers large, consisting of a number of well-formed petals, neither so many as to give it a crowded appearance, nor so few as to make it appear thin and empty; the petals broad and stiff, the guard petals well rounded, and should rise a little above the calyx and then turn off gracefully in a horizontal direction, supporting the interior petals, which should gradually taper towards the crown. Bizarres must have three colours in every petal; flakes two colours strong and bright, the stripes clear and distinct; the fewer freckles or spots the better; all the colours nearly equal, or the most brilliant colour should predominate, the white pure and bright. Picotees the same qualities as to size, petals, crown, and clear white ground as the Carnations; edge of the petals smooth and well rounded. Those flowers which are free from blotch or stripes down to the petal, below the coloured edging, are greatly to be preferred to those which are marked and pounced."

The florists of half a century ago used to grow their Carnations and Picotees in beds, being very careful to prepare a suitable compost for the plants. At the present time nearly all the best growers for exhibition cultivate their plants in pots, and in this way they are very much more under the control of the cultivator. Nor is it necessary to use very large pots. A pair of plants may be potted, the weaker-growing sorts in 8-inch and those of stronger growth in 9-inch pots. The plants are now ready for layering, and the grass this season is remarkably strong. There is a very great demand for this class of plants, and the trade cultivator will most likely layer all the grass he has; but it is not necessary for the amateur to do so, although it is well to layer a good many more than is actually required, as a number perish from the attacks of wireworm and other causes between the time of layering and potting into the blooming pots in March.

Layering is commenced by having ready a sufficient number of pegs either cut from small sprays of Elm, Beech, or Hornbeam. The stems of the common Bracken (*Pteris aquilina*) also answer well. An inch of the surface soil in the pots is removed and some fine sandy soil put in its place; the lower leaves are then stripped from the grass, then with a sharp knife cut a notch upward through a joint into the centre of the stem, then peg the layer into the soil, the peg to be placed close to the notch. The base of the layer should be about half an inch in the soil. After the operation is complete water with a fine-rose water-pot. The layers will be well rooted in a month or six weeks, when they may be cut from the parent plant and be potted two plants in large 60's or small 48-sized pots. The soil for this potting ought not to be too rich, as the plants do not winter well in rich soil. They ought to be placed in a cold frame, and the lights should be kept close for a week. Air should be gradually admitted after this until the plants endure the removal of the lights altogether without flagging. All the attention required now is to see that none of the plants suffer for want of water. Remove all dead and decaying leaves, and the lights should also be removed whenever the weather is dry and mild. Damp is the desperate enemy of the Carnation and Picotee in winter, and does infinitely more damage to the plants than frost.

When the plants begin to grow in the spring is the signal for potting them into the blooming pots; this will be from the middle to the end of March, or even in April. The requisite compost is very simple. Good sound yellow loam four parts, one part of leaf mould, one of decayed manure, and one of sharp river sand will grow the plants perfectly. This ought to lie in a heap through the winter months, and should be torn in pieces by the hand before using it, which gives an opportunity to pick out any wireworms that may be in the loam. When it is not convenient to place the pots in glazed frames after the plants are potted it is better to delay the operation until April, or if it is done in March the weather ought to be mild. A period of cold wet weather would seriously injure the plants if they were exposed to it before they

were established in the new soil. Water should also be applied carefully at first, or until the fresh roots penetrate the new soil. After this time, and if circumstances are favourable, the plants will soon spindle for bloom. The sticks that are placed to the strongest-growing sorts ought to stand 3 feet out of the soil; the weaker sorts ought to have sticks from 2 feet to 30 inches in length. As the stalks increase in length they should be tied to the sticks. Green fly is often troublesome, and should be destroyed by being dusted with snuff or Pooley's tobacco powder. This lively pest is best destroyed by fumigating when the plants are in frames. It ought, however, to be mentioned that a heavy dressing of tobacco smoke will injure the newly formed leaves in early spring. The culture of this fine flower is so simple that the above short details supply all that is necessary. During hot weather in May and June syringing overhead once or twice a-day is desirable, and the plants look much brighter for it, especially in the smoky precincts of large towns. The Carnation and Picotees are well adapted for cultivation in the smoky atmosphere of our large towns and cities, which is an additional mark in their favour.

I may as well add a list of the best sorts to cultivate, and the beginner will find that a few of those best adapted for exhibition are very shy to produce grass. Still some sorts that are shy at Loxford are not so with Mr. Charles Turner of Slough, or with growers in the north, and it will be of the most service to name those with the best flowers. The beginner will also find another source of disappointment in the fact that one or more of his best pairs of flowers will be what is termed "run." The Carnations will come minus the white, and sometimes a pair will come both selfs. In this case there is no way out of the difficulty but to purchase again. Many of the fine old sorts of Carnations and Picotees are not now in existence, and others are very scarce indeed. In recent years, however, some very fine flowers have been introduced, and they can easily be obtained in the trade. The best Carnations are, *Scarlet Bizarres*: Admiral Curzon (Easom), Campanini (Turner), Dreadnought (Daniels), Guardsman (Turner), Lord Lewisham (Bunn), Lord Raneliffe (Holliday), Mercury (Hextall), Mars (Hextall), Sir J. Paxton (Ely). *Crimson Bizarres*: Albion's Pride (Headly), Colonel North (Kirtland), Eccentric Jack (Wood), Isaac Wilkinson (Turner), Lord Raglan (Bowers), Marshal Ney (Headly), Rainbow (Cartwright), Rifleman (Wood). *Pink and Purple Bizarres*: Falconbridge (May), James Taylor (Gibbons), Purity (Wood), Sarah Payne (Ward). *Purple Flakes*: Ajax (Turner), Dr. Foster (Foster), Earl of Wilton (Holland), Earl Stamford (Elliot), Juno (Baldon), Mayor of Nottingham (Taylor), Premier (Milwood), True Blue (Taylor). *Scarlet Flakes*: Annihilator (Jackson), Mr. Battersby (Gibbons), Sportsman (Hedderly), Superb (Ingram). *Rose Flakes*: James Merryweather (Wood), John Keet (Whitehead), Flora's Garland (Brook), Lovely Ann (Ely), Mr. Hextall (Turner), Rose of Stapleford (Headly), Samuel Newman (Hooper), Sybil (Holmes).

**PICOTEES.**—*Red-edged*: J. B. Bryant (Ingram), Leonora (Fellows), Lord Valentinia (Kirtland), Miss Small (Fellows), Miss Turner (Taylor), Mrs. Bower (Bower), Mrs. Hornby (Turner), Mrs. Keynes (Fellows), Princess of Wales (Fellows), Wm. Summers (Simonite). *Purple-edged*: Alliance (Fellows), Chanticleer (Fellows), Cynthia (Turner), Ganymede (Simonite), Mary (Simonite), Mrs. Little (Hooper), Mrs. May (Turner), Mrs. Summers (Simonite), Norfolk Beauty (Fellows), Picco (Jackson). *Rose and Scarlet-edged*: Edith Dombain (Turner), Ethel (Fellows), Juliana (Turner), Lucy (Taylor), Miss Meeking (Kirtland), Miss Williams (Norman), Mrs. Alleroff (Turner), Mrs. Fordham (Turner), Obadiah (Kirtland), Purity (Payne).

I have grown nearly all the above sorts, and can confidently recommend every one of them.—J. DOUGLAS.

## CABBAGES.

THE value of Cabbages and of a good breadth of them throughout summer and autumn is known to every gardener. It appears, however, that the importance of an early crop of this vegetable is not manifest to a majority of growers for home consumption, especially those with small or cottage gardens. Everyone of course grows Cabbages, but if I may judge from the demand for plants in spring, they plant when the crop is well nigh in, if cutting has not taken place in most gardens of any pretension to the name. We have, it is true, many owners of small or cottage gardens equally forward with their crops as in the best-managed garden. Those will bear me out in pointing to the importance of a batch of

Cabbages to come in when the old Potatoes are running or run out, and the new crop not in. Under the present general practice of spring planting, the Cabbage crop is not of much profit ere the Potato crop is plentiful and good. Were autumn instead of spring planting practised, nice heads would be forthcoming in a majority of seasons through May and June, and the same plants will give a quantity of sprouts equally tender and good and little later than spring-put-out plants.

It is important that the most be made of every inch of ground, and to none is this of more consequence than the cultivators of small plots of ground. In fact it is becoming an institution in gardens containing acres of ground to have a sort-of-between crop: Peas sown between the rows of Spinach or Radishes, both being off before the Pea haulm is of a height to injure the latter; and these are barely off before a Celery trench is made and planted between each two rows of Peas. The crop of Peas is made more difficult of gathering, but the prospective value of the Celery crop makes its surmounting comparatively easy. After the Celery I take Onions, and after the Onions plant with Cabbages.

I was at one time given to plant on warm borders the earliest bed of Cabbages, selecting a dwarf variety, turning-in quickly and hearting well, of which there is no better than Veitch's Improved and Atkins's Matchless. St. John's Day Cabbage is a very compact grower, and forms solid heads, coming in early. It is also very hardy. I have, however, abandoned planting on warm borders, an open situation being found preferable; but a position exposed to cutting winds is not desirable, for considerable injury is often done to the crop by the wind blowing the plants about. The best means of preventing this is to sow thinly; to prick-out, when the plants have a rough leaf with another showing, 3 inches apart, and plant before the plants become gross or drawn; and if this be attended to they will have next to no leg, with the leaves propping-up the plant all around.

Now, I only make but one summer sowing, and this from the 10th to the 15th of July, at least I only depend upon this sowing with the succeeding sprouts to carry us through summer to autumn; but I sow again the first or second week in August, generally 10th to 12th, and the plants are pricked-out in beds in September or early October. At this time the Red, of which there is none better than the Dutch for pickling, is sown, the plants being subsequently planted-out in March or early April. The plants from the August sowing are useful to meet a demand for plants in spring, everybody on most estates having plots of ground, and a gardener has generally pleasure in distributing a few plants. The autumn planting of Cabbages from seed sown in July is regarded with suspicion by many cottagers, the fear being that the plants will "run." I do not have any plants run to seed, which may arise from the plants being early planted, spindly plants never being good at any time; the plants must be stout and sturdy. I find that if the planting be delayed, that the plants lose the lower leaves, and every leaf lost is loss of so much heart.

If hearting Cabbages be wanted all the summer through, the August-sown planted in March or April will form an excellent succession to the July-sown plants; but, as before stated, nice hearted sprouts are just as good as Cabbages the size of half-a-dozen sprouts, in fact are more esteemed. A good breadth of Cabbages, be they only sprouts, are not despicable to fall back upon in case of a scarcity of greens. I remove every third row of Cabbages after cutting, and sow, after well manuring, late crops of Peas, leaving the two intervening rows of Cabbages for sprouts. The Peas and Cabbages will be off in autumn in time for manuring and throwing up roughly for the winter, and Potatoes may follow or any root crop. For a late crop of Cabbages I sow the beginning of April, and plant when fit to plant in June. They will give fine heads in late summer and autumn until frost, for though slight frost may not injure the crop, a severe one destroys it. I always manure the ground, no matter what it may have been cropped with, so soon as the ground is cleared, dig it well, and it is in a fitting state for cropping at once.

When planting the plants are scrutinised for club. If any are found with a knob or excrescence on the stem it is opened and the grub destroyed; the plant is then as good as any. A dressing of quicklime is given about the end of September to the beds planted early in the month. It is sprinkled over plants and the whole of the surface, making the ground quite white, and is good against slugs, and when fit the plants are well earthed-up. A dressing of soot is also beneficial in March or early April. When the heads are cut the leaves are

left on for a week or ten days, as this materially assists the sprouts, after which the old leaves are all cleared away.

Hill's Dwarf Incomparable, Nonpareil Improved, and Wheeler's Imperial are the best for early, and excellent at all times; Enfield Market and Battersea, with Cattell's Reliance, are larger—fine for general crop; Cocoa Nut (Wheeler's) is very early, turning in quickly, attaining a good size, and is the best-flavoured of all, though Little Pixie, a dwarf sort, is excellent in that respect; Atkins's Matchless will do in rows 15 inches apart and a foot asunder, also Little Pixie; the early crops 18 inches apart, but if to remain for sprouts 2 feet, the latter distance being allowed for the main crops.—G. ABBEY.

## AUTUMN PROPAGATION OF BEDDING PLANTS.

WHENEVER there are any great quantity of tender plants bedded-out in the summer time, their propagation in autumn always requires considerable attention. The sooner cuttings of many plants are put in after the beginning of August the better, as then they have a chance of rooting early and growing into plants that will stand wintering without loss. In many instances autumn propagation is delayed as long as possible, as taking the cuttings from the flower garden damages its appearance for a time. Geraniums are always largely propagated in autumn. Most people are in the habit of rooting their whole stock for the following season at this time. This is very advisable, as unless Geranium cuttings are rooted very early in spring they never make good plants at bedding-out time, and there are always more cuttings to be had in autumn than in spring. Before beginning to take off any cuttings everything should be prepared for putting them in and proceeding uninterrupted with the work when it is commenced.

The first thing to do is to make ready a quantity of soil. This should consist of light loam, leaf mould, and silver sand mixed well together. The mixture above mentioned is suitable for nearly all kinds of cuttings. When the soil has been prepared, the pots, boxes, or whatever the cuttings are to be put into, should also be in readiness. Where wintering accommodation is scarce the cuttings must be put into whatever will hold most in the least space. Geranium cuttings keep well in pots, but pots cannot be so closely packed together as boxes. For all kinds of green-leaved Geraniums deal boxes are suitable. These should be made of a convenient size for lifting and shifting; 2½ feet long, 18 inches wide, and 3 or 4 inches deep are the dimensions of a suitable box. Six or eight holes an inch wide must be made in the bottom to allow the water to pass from the roots.

Variegated-leaved Geraniums are very subject to damp during the winter, and when there are a large number of them together it generally aggravates the injury; therefore it is often the best plan to put the variegated cuttings into pots—7-inch and 8-inch pots are suitable. From twelve to twenty cuttings according to size can be put into one of these. Three inches of drainage must be placed at the bottom of each pot, and above this a thin layer of moss must be placed; the soil may then be filled-in up to 1 inch from the rim, half an inch of fine sand should be laid on the top of this, and the whole well watered. Each pot must be done in this way, and a large number of them should be filled before starting to put in the cuttings. Boxes are filled in much the same way as pots, only the same depth of drainage cannot be placed in them; an inch is sufficient, and the roughest bits of the soil should be laid immediately over the crocks. Spent mushroom dung is sometimes used to put in the bottom, and it suits the purpose very well. In all cases the soil must be pressed firmly in, and the top-dressing of sand should be made perfectly smooth.

Having thus arranged, the cuttings may be taken off. This must be done carefully, always cutting away the parts that will least destroy the form of the plants and beds. Geraniums which are growing strongly and closely together generally produce many tender shoots near the ground. These are from their shaded position always tender, and although they may look as if they would make good cuttings they do not. Hardy top shoots are always superior; they are sometimes not so long, but they are surer in rooting and keep better after they are rooted. Most people know how to make a Geranium cutting, which is simply cutting through below a joint, removing the two leaves attached to it, and the two further up if necessary. A sharp knife should be used at this work. Clean cuts must always be made. A dibble a little longer and about as thick as one's middle finger should be used for making holes for the cuttings. The cuttings should not be put further than

1 inch or 1½ inch into the soil, and firming the soil about them must be observed. A box of the size given above will hold from four to five and sometimes six dozen cuttings. The whole must have a thorough watering after the cuttings are put in, and little or no more will be needed until they are rooted.

Cuttings of all kinds of Geraniums root freely in August set in the open air and freely exposed to the sun. They should remain in this position until the autumn frosts appear. Cuttings that are rooted, and kept as long as it is safe in an exposed place, are in much better condition for meeting a damp or severe winter than those rooted and coddled under glass. When it becomes necessary that they should be taken under cover it should be into some place where frost can be entirely excluded and damp expelled with a little fire heat when it is required. "Drawing," which is caused by the plants being far from the light and air, must be avoided at all times.

A few dozens of Verbenas rooted in autumn will supply hundreds of cuttings in the spring. The best way to deal with them is to put a number of cuttings in closely under a hand-light or any kind of frame, and keep them close until they are rooted. Soil the same as that used for the Geranium suits them. In case of failure the inexperienced should always put in more than are wanted. Shoots with no bloom on the points make the finest cuttings. The cuttings are made in the same way as from the Geraniums. When rooted they should be lifted and transferred to pots or pans. Ten or a dozen plants may be put into an 8-inch pot. Good drainage is indispensable to their well-being throughout the winter, and plenty of sand and leaf soil must be used amongst the rooting compost. By putting cuttings in early the plants become established after being transplanted before the short days occur. They should have a little artificial warmth in dull cold weather. They are, especially the white sorts, very subject to mildew in winter; any signs of this must be checked in time by dusting a little sulphur over the affected parts.

There are many other kinds of bedding plants that should be propagated in large or small quantities in autumn. The Variegated Alyssum is readily rooted in spring, but stock for this must be put in now. It roots in 6 or 8-inch pots filled with a mixture in which sand predominates, and set in a cold frame. That most useful white-leaved plant *Centaurea ragusina* is often shy in rooting. It roots exceedingly freely when placed singly in small thumb-pots. The cuttings are broken off with a heel from the side of the old plants, and the only dressing they receive is the cutting away closely a few of the lowermost leaves. After they are put in firmly and watered they are placed in a cold frame, and kept shut up closely until they are rooted. This takes place in about three weeks, and when once the roots begin to show at the outside of the ball they are shifted out of the thumb-pots into 3-inch pots. A light sandy mixture is always used at this potting. They require to be wintered in a dry airy place to prevent them from damping. Old plants are often kept over the winter and the cuttings taken off and rooted in spring, but this mode has no advantage over the autumn propagating. Ageratums may be increased quickly in spring, but to provide for this a quantity of cuttings must be put in now. Eighteen or twenty may be put into a 6-inch pot, in which they may remain all winter. Petunias are often most difficult to root. A few old plants should always be kept in store in case of failure. They root more freely in spring than in autumn. In the latter season they must be kept in a close somewhat moist frame until they begin to grow. *Heliotropiums* may be done in the same way.

Good and uniform plants of *Lobelia* are not often had perfectly true from seed. Cuttings should be selected from the best plants and rooted in autumn. To do this successfully they must be kept shaded and moist, and plenty of sand must be used in the soil. They are easily preserved after they are rooted in any dry atmosphere free from frost. Some of the *Tropæolums* are not easily rooted. *T. Cooperii* is one of the worst to manage. A great many more cuttings of it should always be put in than are wanted. Cuttings root more freely on a somewhat dry greenhouse shelf than in any other place, and they cannot be kept safely during the winter in a less heat than 50°.

*Coleuses* root freely at any time. A score or two of autumn-rooted cuttings will supply hundreds in spring. When kept moist they are liable to damp in winter. They may be fully exposed to the sun when rooting in a frame. *Alternantheras* should all be rooted now. This can be done with far less trouble at the present time than in spring. About a dozen



cuttings may be put into a 5-inch pot. They must be kept in a close frame or some other such place while rooting. They should remain in the cutting-pots until spring. If well rooted not a single one of them will die in a greenhouse temperature throughout the winter.

Where they thrive well *Calceolarias* are still exceedingly useful flower-garden plants, and nothing is more easily managed in the cutting state. The last week of September is early enough to begin with them. Any kind of frame is suitable for them. They require no artificial heat at any time. The frame in which they are put should contain a depth of 6 inches of sandy loam. A layer of pure sand is sometimes placed over the top of this, but if airing is well attended to in winter and spring so as to prevent damping this is not needed. There is never any scarcity of *Calceolaria* cuttings. They should be from 2 to 3 inches long, and they should be put in about the same width from each other. If sashes are at hand they may be laid on while they are rooting, otherwise they often do well exposed.

Pansies and Violas, now so justly popular for flower-garden decoration, will root anywhere. They need not even have frame protection. The shelter of a wall suits them as well. They should be made in the same way and about the same time as the *Calceolarias*. They must have a lighter and more sandy soil than the latter. When they are put in 3 inches apart it is not necessary to remove or transplant them until they are shifted into their final resting place. All cuttings are made in much the same way.

Where there are plenty of houses to hold them throughout the winter a large stock of everything should be rooted in autumn, as this can be done now with much less trouble and expense than when much fire heat has to be employed in the early spring months.—J. MUIR.

#### PAUL VERDIER ROSE.

I wish to call attention to a Rose which is not often seen in exhibition stands, probably because its flowers do not expand so early as other good varieties. This trait in its character makes it of great value to me, for now that other Roses are nearly over Paul Verdier is at its best, and I am inclined to think it furnishes more perfect blooms than any other Rose I am acquainted with. It is a good deal like Beauty of Waltham in form; it is of a lighter shade than that beautiful Rose, and I think keeps its colour longer. The present hot weather scorches a few of its petals, but still I could pick fifty or sixty blooms which would not disgrace an exhibition stage. It is not, however, as an exhibition Rose that I recommend it, though a few plants of it might sometimes be found useful in making-up a collection for a late show, but as a garden Rose and a Rose for cutting when most other Roses are over I have not at present seen anything to beat it. It is a vigorous grower and free bloomer, and with me on clayey soil is best on its own roots.—WILLIAM TAYLOR.

#### IVY HEDGES.

ATTENTION has been directed to the several decorative purposes to which Ivy is adaptable, and for the various uses named on page 66 it cannot be over-estimated. It may be useful to supplement the remarks of "J." by noticing that Ivy in some parts of Belgium is used for hedges—for forming divisional lines in nurseries and as boundary fences. It is thus employed because of its hardiness, its evergreen and ornamental character, and on account of the small space which the hedges occupy. More particularly I noticed the use of Ivy for the purpose named in the interesting nursery of Mr. Charles Van Geert at Calmpthout, a few miles distant from Antwerp. In this nursery, which will be more fully alluded to on a future occasion, there are many kinds of hedges, and amongst them hedges of Ivy. These are formed in the first instance of galvanised wire netting affixed to stout and durable supports. This forms the framework of the hedge. The Ivy speedily covers the wire, and a thin, dense, durable hedge is provided. Thus without the aid of walls many of the ornamental Ivies may be cultivated in a manner not only attractive but useful, hedges formed in this way being firm and substantial.

In the same way Ivy may be trained to cover summer houses in gardens, and of which Mr. Van Geert's nursery at Antwerp affords an example. A skeleton framework—either octagonal or hexagonal—had been fixed, and the sides formed as it were

walls, also a roof, of wire netting. These were covered with Ivy, producing a cool agreeable shelter. This is an inexpensive structure, yet lasting and appropriate to many grounds and gardens. It is noticeable that where the wire had been covered with mats—ordinary Russian garden mats—previously to planting the Ivy, that the latter grew more satisfactorily, forming a quicker and a better screen than when the wire alone constituted the surface for the Ivy to cling to. These mats appear to be particularly suitable for the support of Ivy, the shoots clinging to them with great tenacity, in fact, as Mr. Van Geert observed, "eating them," so that in a very few years not a vestige of the mats is to be found. That, however, is due to the desiccating influence of the weather as much as to the gormandising power of the plant. After "eating" through the mats the Ivy becomes affixed in the wires, and is not displaced by wind, and the walls are permanent and evergreen. The Ivy only requires clipping occasionally to keep it "snug," and then no one can tell without a close examination that it is not growing on stone or brick walls. The adaptability of Ivy for these modes of shelter and ornamentation renders these examples worthy of being recorded.—J. W.

#### AN AFTERNOON AT CHESHUNT.

I HAD been so often invited by Mr. George Paul to pay him a visit while his Roses were in bloom that I determined one day to go down to Cheshunt. The afternoon was fearfully hot, and the Great Eastern railway arrangements are none of the best. It is only thirteen miles to Cheshunt, and yet we were an hour going down and nearly two hours coming back; but as soon as I reached the Cheshunt railway station I was all right, for on the platform I beheld my host, and from that moment all was jolly. He had a little pony trap waiting, constructed by a clever man who lives near his nursery, so as to traverse all the narrow roads and turns in his numerous nurseries. We drove from one to the other, getting out whenever we came to a patch of Roses and leaving the pony to the charge of another rosarian, Georgius Paulus tertius. I was much struck with the condition of the nurseries. Except in one piece of fruit trees, which had been from press of work a little neglected, no trace of a weed was to be seen. All the soil, too, was open, bearing marks of the hoe, showing how recently the men had been over it. Mr. Paul's system is to have the hoe constantly at work, so as to make the soil porous and open that the rain and dew may enter the easier. He does very little, if anything, in the way of mulching or top-dressing; his idea is to have the ground constantly moved. Certainly his plan is most economical, and most successful if results are to be taken as proofs. No one has been so uniformly successful in exhibiting Roses as he has been. If you take one year with another you will find that he is *facile princeps*. One year the seedling Briar may astonish the Rose world, at another, as this year, the Colchester grower may electrify us; but year by year Paul & Son of Cheshunt are grand. They may not be first for seventy-two, but there is never a show that they do not get one first, whilst running well for second in the others. They may at times be beaten, but they are never disgraced. They always show whatever their form may be. To the halls of crystal or to the tented field they come. Mr. Paul, ever genial, ever pleasant, ever cordial, and one of the kind-hearted men who never complain of a judge. Long may he live and flourish, long may he come up to the metropolitan shows with boxes full of blooms, which always command admiration and are generally superb. Long may he be spared to send out Cheshunt-raised Roses, and give us seedlings from the Duke, children of Charles Lefebvre, and Cheshunt Hybrids. All rosarians must feel that they owe a debt of gratitude which they never can repay to him who gave us Reynolds Hole.

And now this year he offers those beautiful seedlings concerning which I have a few words to say. I saw rows of these Roses some three years old, for Mr. George Paul never sends out a Rose which he has not proved for that term. He tries the seedling in every possible way before he advertises it, and any one, however beautiful it may be, which is deficient in the all-important quality of vigorous growth, he discards it. I saw a Rose which was a rather light Alfred Colomb or a Madame Caillat, which appeared to me to be a most promising seedling, but "Pretty is it not? but no good, there is no growth," was my host's verdict, so it is condemned. The three novelties are Duke of Connaught, Dr. Hooker, and Sultan of Zanzibar.

All these are good, particularly the first of the three. I am aware that I am incurring frightful responsibility in publicly recommending a new Rose, but I do not hesitate to do so, for I feel confident that the Duke of Connaught is a grand Rose. It cannot be better described than by saying that it is a Lord Macaulay with a good constitution.

Dr. Hooker is a rather light but a very double Duke of Edinburgh, with the additional advantage that it is a good autumnal bloomer.

The Sultan of Zanzibar was a little past its best, but Mr. Paul has shown it remarkably fine this season. It is like the original, a dark well-formed Rose after Prince Camille de Rohan, and I believe it to be a gem of the first water.

Empress of India and John Bright—please notice the delightful alliance—are two seedlings sent out through Messrs. Paul & Son by Mr. Laxton. The former is perhaps a little too like Reynolds Hole. The latter is a rich vermilion in colour, but too thin in form and weak in constitution ever to become a grand show Rose.

And now I have gone through Mr. Paul's novelties, but before I conclude I must notice the new French Rose Comtesse de Serenyi. This is a splendid light Rose, and one which will take a high position when better known.

Mr. Paul showed me a new Tea Rose garden he has recently constructed. I am afraid I cannot well give a description of it without sending a drawing, and this I am unable to do. I may say the same here as I did in the school at Oxford. I was requested to draw a map of Sicily, so I took out a half-crown from my pocket, made a circle, stuck Pergamos in the middle, and took it up. "What!" said the examiner, "this a map of Sicily?" "Please, sir, I was never taught drawing when I was a boy." This so tickled the good men that they were unable to continue for some little time, and I got through. But the Tea-Rose-garden system is one which I think will be most successful. It consists of cordons nailed against upright posts up which the climbers are to grow, the whole being covered in by hurdles or mats; the beds underneath being planted with dwarf Teas on the seedling Briar. The idea is to protect in winter and retard in spring and early summer. The result is yet to be seen.

I was most hospitably entertained, and had a little difficulty in getting away—in fact I had to run for a quarter of a mile or so in order to catch the train, but I did catch it, and had plenty of opportunity of cooling, for the Great Eastern most kindly kept the train waiting twenty minutes outside the Liverpool Street station and I did not get home till midnight; but I had a most pleasant visit, and would recommend all rosarians who want to see growth and blooms to visit Cheshunt in the Rose season.—JOHN B. M. CAMY.

## ROYAL HORTICULTURAL SOCIETY.

AUGUST 1ST.

A MEETING of the debenture-holders of the Royal Horticultural Society was held at noon last Tuesday, in the Council Room of the Society, South Kensington, "to receive a statement from the President (Lord Aberdare), as to the financial position of the Society." At the Council-table were Lord Aberdare (in the chair), Lord Alfred Churchill, Mr. Henry Webb (Treasurer), Dr. Hogg (Secretary), Mr. Kellock, Dr. Denny, Mr. Haughton, and Major Mason. Amongst the debenture-holders were General Mackinnon, Admiral Sir Edward Belcher, Capt. Derriman, Admiral Boyle, Dr. A. Fyfe, Mr. Edgar Bowring, C.B., Lieut.-Col. D. Labalmondiere, Mr. J. J. Loundes, Mr. W. H. Solly, Mr. George Reay, Dr. Martyn, Mr. A. E. Adamson, Mr. David Robinson, &c. There were some ladies present.

The PRESIDENT rose and said—Ladies and Gentlemen, we are met together to-day in accordance with a notice which no doubt you have received from the Royal Horticultural Society, and the object of our meeting is to give you, the debenture-holders of the Society, the first possible opportunity of considering what your position is with respect to the Society, what it is you possess in point of security for the repayment of your interest and ultimately of the principal of your debentures. We have called you together at this moment, and we really wish it were in our power to have called you together at an earlier date, but the fact is we have been so deeply and constantly engaged considering the position and affairs of the Society, that it is only at this very last moment we are able to place before you anything like a definite statement of your position. This is the more due to the debenture-holders, who, after all, are the people who are chiefly pecuniarily interested in the prosperity of the Society, because I find that even amongst the holders of these debentures of the Royal Horticultural Society there exists a very vague and extremely inaccurate idea as to what was the security

given for their money when they became possessed of these debentures. Well, ladies and gentlemen, I will state to you as briefly and as concisely as I can what, in the belief and opinion of the Council the exact nature of the security of the debenture-holders is—first as to interest, and then as to the capital itself [hear]. By two agreements entered into—one in July, 1860, the other in March, 1861, between the Exhibition Commissioners of 1851 and the Royal Horticultural Society, power was taken to raise £50,000 upon debentures of the Society. The Royal Horticultural Society was to raise the money in this manner—In the first place, all the receipts of the Royal Horticultural Society were to be applied to the maintenance of the gardens—that is to say, their maintenance in a fit and proper condition, and to the promotion of their shows: in fact, to the performance and execution of their business as a horticultural society; and then it was provided that if there should be any surplus from the receipts, that surplus should be applicable, in the first place to the payment of the debenture-holders' interest, in the next place to the payment of rent to the Exhibition Commissioners of 1851, and especially that if any surplus remained after providing for the items I have mentioned, three-fifths of the same should be applied towards paying off the actual capital of the debenture-holders. Now, with respect to the debenture-holders' interest, interest has been paid till very recently by the Society, but I regret to have to state that at least £5000 of the interest has been improperly paid to the debenture-holders. Here I may be permitted to say that the Council and the Society are most anxious that the debenture-holders should not in the least degree suffer, especially from the payment to them of a sum of money not properly applicable to the discharge of the interest on their debentures. Let the debenture-holders bear in mind that the duty of the Royal Horticultural Society was, first of all, to provide for all their ordinary payments, for all their expenses and debts incurred for the keeping and maintenance of the gardens. That simply was the first and paramount duty of the Society. When I joined the Society I found that a debt of something like £5000 had been incurred by the Society, practically incurred by the payment to the debenture-holders of money, of sums of money which were only applicable to the payment of the expenses of the Society, and it was only by an arrangement entered into with the Royal Commissioners that we were enabled to raise upon their security the sum of £5000, which has been applied to the discharge of the debts so incurred by the Society, which debts should have been cleared off by the amount paid to the debenture-holders. With respect to the security for the capital of the debenture-holders, it consists of two sorts: First, as I have already mentioned, in the event of there being a surplus after providing for all the proper expenses of the Society, for the payment of the debenture interest, and payment of rent to the Royal Commissioners—if, after all these being provided for, there still existed a surplus, three-fifths of it was to be applied towards the diminution of the debenture debt. I can only find in one year any such sum as would do all that, and that was the first year of the Society's operations—in 1863—and in that year the sum of £300 was found to be applicable to this purpose, and accordingly £300 of the debenture debt was extinguished. Since that time I am sorry to say the Society has had no surplus, and in fact the receipts of the Society in most of the years since that time have been insufficient to pay the rent to the Royal Commissioners. It is clear, therefore, that that security has failed in respect of the debenture-holders. But then there is another contingent security, which is this: By the agreement of 1860 the Commissioners leased these gardens for thirty-one years to the Society at a rental of £2145 on certain conditions. If, at the end of these thirty-one years—in the year 1892—the Society fulfilled all the conditions to which it subscribed, and amongst these conditions paid the rent agreed upon and due to the Royal Commissioners, it would then be in a position to ask for a renewal of the lease, and if the Royal Commissioners declined to grant that renewal they would be obliged to pay one-half the debenture-holders' debt. But I am sorry we have not been able to pay the rent to the Royal Commissioners, and I am more sorry to say there is very little hope of our being able to do so. You are all, no doubt, aware that the Royal Commissioners granted us what may be called three years of grace, binding us to raise the sum of £7000 applicable to the payment of our debts and relieving us from the payment of rent for the gardens for three years on the condition that during the three years we should exert ourselves to raise the subscriptions of the Society to the amount of £10,000 annually. Well, we have made the very best exertions we could make, we have honestly done all we could do; but I am sorry to say the result—partly, perhaps from the nature of the case, and partly from the fact of three years' bad business—did not bring us in the amount of subscriptions which would enable us to carry on the gardens, having raised the subscriptions to the sum of £10,000 a-year, the amount the Royal Commissioners stipulated for. Taking everything into account, the actual amount of our subscriptions can only be looked at as £4500; and then on the other side, including rates and taxes and the payment of the debenture-holders' interest, our expenditure comes

up to £8500 a year, so that it is obvious we are not in a position to carry on the gardens even to the end of the year at that rate of expenditure. Not only the present Council but that which preceded it have honestly and earnestly exerted themselves to reduce the expenditure of the Society. I am not aware that any material or sensible reduction can be made beyond the point we have reached. It seems to me, therefore, it will be the bounden duty of the Society to put an end to their existence until such time as they can start on a new basis. In doing so it is impossible they can pay the debenture-holders their interest until the surplus receipts are obtained; and, such being the case, we thought it our duty to the debenture-holders to lay the facts of the case before them, so that they should take such measures as they may think best calculated to secure their interests [hear, hear]. I have now submitted all the facts which it was necessary to bring under your notice, and I only trust I may at some future time be able to make a more cheerful and satisfactory statement [hear, hear].

**A DEBENTURE-HOLDER.**—In case of the winding-up of the Society, have the bondholders any claim on the existing buildings? That is a question I should like his lordship to answer.

**THE PRESIDENT.**—None whatever. I do not know that the Society can be wound up. It exists under a charter. I may say we are most anxious to keep out of debt, and we are out of debt, but not in a position to go on.

**THE DEBENTURE-HOLDER.**—In any case, no matter how things go, we have a right to get our interest on our debentures.

**THE PRESIDENT.**—The debt to the debenture-holders only arises when certain surplus receipts arise. The debenture-holders are really in debt to the Society, and not the Society in debt to the debenture-holders [laughter], because interest to the amount of £5000 was improperly given to them ["oh!"] It was only by a subsequent arrangement with the Royal Commissioners that we were enabled to pay off that debt of £5000. In this way you will see the debenture-holders have received in reality £5000 more than they ought to have received.

**THE DEBENTURE-HOLDER.**—The debentures having been issued by the Society, and interest having been paid on these debentures up to February last, we consider the Royal Horticultural Society is indebted to the debenture-holders [hear, hear].

**MR. GEORGE REAY.**—We look to Her Majesty's Commissioners, for they are the people who borrowed the money. They borrowed the money, and we look to them to refund it [hear, hear]. If they do not refund our money we consider that our money has been taken away in a very improper manner.

**THE PRESIDENT.**—Some of our negotiations with the Royal Commissioners were not successful.

**MR. REAY.**—But all the time the Royal Commissioners used our property [hear, hear]. The Council of the Royal Horticultural Society and the Royal Commissioners seem to have been entirely engaged making their own arrangements between themselves; but no one ever consulted us as to the payment of our debt, and I do not believe the Council of the Royal Horticultural Society or Her Majesty's Commissioners, in any arrangements made between them in reference to the business of the Society or the relations between the two bodies, ever bestowed one thought upon the debenture-holders. It is my opinion, and I believe—at least I have no doubt—it is the opinion of many, if not all the debenture-holders in this room, that they have been most improperly treated both by the Royal Horticultural Society and Her Majesty's Commissioners [hear, hear].

**THE PRESIDENT.**—By the arrangements—for which I am not responsible—which the Society made with the Commissioners the receipts taken by the former enabled them to pay interest to the debenture-holders which they otherwise would not have been enabled to pay. In considering this question that fact ought not to be lost sight of. Again, the receipts on these former years did not enable the Society to reduce the capital, but simply to pay the interest.

**Admiral Sir EDWARD BELCHER** was understood to ask, as the oldest member of the Society, a question of the President respecting the meeting of the Fellows.

**THE PRESIDENT** said there would be a meeting of the Fellows of the Society on Wednesday, at which all matters referring to its condition and prosperity could be discussed. If anyone had anything in opposition to the Council to say, he could say it.

**Admiral Sir E. BELCHER.**—I address the meeting as the oldest member of the Society, and I will try and induce those who are here to-day to come to the meeting of the Fellows to-morrow.

**THE PRESIDENT.**—But you will perceive that—

**Admiral Sir E. BELCHER.**—Allow me to address the meeting and answer me afterwards.

**THE PRESIDENT.**—You address the meeting as the oldest member of the Society—

**Admiral Sir E. BELCHER.**—I have not begun my argument. When I have finished it you can answer me.

**THE PRESIDENT.**—I am Chairman here, and am very anxious to give to everyone the fullest opportunity of expressing his views, but it is my duty to see that the discussion at this meeting is rightly and properly conducted. We are not here to-day

to discuss the affairs of the Royal Horticultural Society, but the interests of the debenture-holders [hear, hear]. If the gentleman will keep himself to the question of his own interests as a debenture-holder he will be in order.

**Admiral Sir E. BELCHER.**—When I purchased my debentures the interest on them was at the rate of 5 per cent., and afterwards, most dishonourably, the administrators of this Society withdrew 1 per cent. without consulting the shareholders generally. When you did that you kept it back from the debenture-holders, and you never told us where that money was to come from. You borrowed the money from us at 5 per cent., and then held it at 4 per cent. I entreat debenture-holders not to trust to the dictum of any man, but to go to the Court of Chancery and have their rights enforced [no.] If the meeting is of the same opinion as I am, I am willing to sacrifice every farthing I have to bring to light the dishonourable conduct of the Society in this matter.

**THE PRESIDENT.**—It is a great pity we should have these hard and harsh expressions used [hear, hear]. What has been stated is not a fact—at least so I am told; and, after all, it is not a question of law, but one of fact. It is not a fact that the debenture-holders were not called together with respect to the reduction of their interest. I am told they were, and that they consented to the proposal upon the principle of being better to receive half a loaf than no bread. As to information, every debenture-holder has the information on the back of his debenture. I had to read it myself, and it is not the most agreeable literature, and I find on the back of every debenture what, as to security, is in reality the substance of what is to be found in the original agreements of 1860 and 1861, both of which are printed on the back of the debenture. I know people do not sometimes read these things very carefully, but a man putting his debenture into a lawyer's hands would just get the same information which I have given you.

**MR. REAY.**—They agreed to pay us 4 per cent. on our debentures.

**A DEBENTURE-HOLDER.**—We knew nothing about the security. How were we to know what security we were getting for our money?

**THE PRESIDENT.**—Of that I know nothing. When people lend their money they usually look after the security they are getting. The security would be learned from a copy of the debenture put into my hands.

**THE DEBENTURE-HOLDER.**—But there must have been some inducement or some good security to get people to take up these debentures.

**Admiral Sir E. BELCHER.**—All I can say is, I advise my friends to join together and obtain legal advice and authority to enforce their claims—their honest claims.

**A DEBENTURE-HOLDER.**—What security did they offer for the money paid on the debentures?

**THE PRESIDENT.**—I am not exactly able to speak as to that.

**THE DEBENTURE-HOLDER.**—But the Council ought to be able to speak upon the subject.

**THE PRESIDENT.**—You have your debenture.

**Another DEBENTURE-HOLDER.**—It is easily surmised what the inducement was.

**A third DEBENTURE-HOLDER.**—It was the 5 per cent. [hear, and a laugh].

**MR. REAY.**—I imagine we all thought we would get good security for our money. I am sure a great many of us in giving our money relied entirely upon the good name of those connected with the Society [hear, hear]. Can your lordship tell us how the matter stood when the debentures were taken up?

**THE PRESIDENT.**—I cannot tell exactly what took place on that occasion.

**A DEBENTURE-HOLDER.**—Were the accounts audited and sent to the debenture-holders at the end of each year?

**THE PRESIDENT.**—I believe every debenture-holder, like every Fellow, had a copy of the accounts.

**THE DEBENTURE-HOLDER.**—Because it seems to me it has not transpired until the eleventh hour, when the Society is in point of fact regularly gone down, that this £5000 referred to by his lordship was improperly treated. This is in fact the old story of paying interest out of capital.

**THE PRESIDENT.**—The Council paid the debts of the Society with the money they raised. As to the debenture-holders not receiving copies of the accounts, I really cannot say anything at all about that.

**DR. MARTIN.**—As it has been truly said, we really relied upon the good repute of the Commissioners and the Society for dealing with us in a fair and liberal manner. To advance money at 4 per cent. and run all the risk would be a terrible position to place us in. We are placed in that position by the Commissioners or the Society. The busy life I have led has prevented me looking into the matter. In all speculations a man must look after his own affairs, and what is now before us shows how little you can rely upon Royal Commissioners or anyone else [hear, hear]. I have always relied upon some consideration on the part of the Commissioners, who are a body of wealth and

power, and men sure I should think to see we are not losers. I do hope the Royal Horticultural Society and the Commissioners are bound in honour to see we are not let into the loss that seems to be contemplated by this meeting. The taking of 4 per cent. and the risk as to the security is too bad, and we ought to be helped by the responsible parties out of our position [hear, hear].

The PRESIDENT.—If the debenture-holders like to address themselves to the Royal Commissioners, it is for them to see in what form they will approach them. I do say on the part of the Society, it has not the means to do more than discharge its existing engagements—to carry on the gardens to the end of the year, and that with the strictest economy. I may say I have got in my hand a notice given to the debenture-holders of the reduction of the rate of interest.

Dr. MARTYN.—That is perfectly right.

The PRESIDENT.—I will read the original, signed "John Lindley, Secretary," and dated the 8th July, 1859. The noble lord then read the original document, which stated that at the desire of the Council a special meeting had been held the previous day with respect to acquiring twenty acres of ground on the condition that the Commissioners would surround the gardens with beautiful Italian arcades, and do other extensive works at a cost of £50,000, giving to the Royal Horticultural Society a lease of thirty-one years, who were to construct a suitable garden. Then the document dealt with the surplus, which was afterwards modified to the extent that two-fifths were to go to the Royal Commissioners and three-fifths to the debenture-holders. After that the noble President read a resolution of 31st July, 1861, in which it was stated that the rate of interest given to the debenture-holders having been brought under the notice of the Council by some Fellows of the Society, who were of opinion that money could be got at 4 per cent., it had been urged on them to pay off those not willing to take 4 per cent. The Council had come to the conclusion that the most equitable thing was to lay the matter before the debenture-holders, and leave it at their option either to hold their debentures at 4 per cent. or be paid off. It appears, said the President, then, that an assent had been given to that in 1861, and the payment accordingly had been made; but at that time the prospects of the Society were much more flourishing than they now are. Next year a sum was realised not only sufficient to meet the expenses of the gardens, but also to provide a sum for paying off the debenture-holders, and so in the following year the sum of £300 was so applied. I have no doubt, as no one can have any doubt, that the condition of the Society at that time made investors less careful in looking to the nature of the security of their investments than they would have been now [hear, hear].

A DEBENTURE-HOLDER.—With all this talk I should like to know whether your rent has ever been paid.

The PRESIDENT.—The full rent has been twice paid, and for other terms only a portion of the rent has been paid.

The same DEBENTURE-HOLDER.—Then I believe you have had no paying business at all.

The PRESIDENT.—Oh, yes; the debenture-holders had the first claim for interest, then came the claim for rent, and then and lastly the claim for the capital of the debenture-holders. I may say, however, that you debenture-holders have received £30,000 in interest.

A DEBENTURE-HOLDER.—But you have never had anything to pay or to spare.

The PRESIDENT.—I beg your pardon. In one year there was enough money to pay for all the three claims I have enumerated, and in addition to that the Society put aside £300 to be taken off capital.

A DEBENTURE-HOLDER.—How was the agreement carried out?

The PRESIDENT.—The terms of agreement were these:—First, to provide for the necessary expenditure to keep up the gardens at Chiswick and South Kensington; next, to the payment of the interest on the debenture debt; and after that payment on the £50,000 borrowed by the Commissioners. Summarised it is this—First, payment for expenditure on the maintenance of the gardens; secondly, the interest on the money borrowed by the Royal Horticultural Society; and next the money of the Royal Commissioners.

Admiral Sir E. BELCHER.—I would remark upon what are called the "necessary expenses" of the gardens. I maintain that the accounts rendered have been unjustly and dishonestly given to us, because we have in these accounts a number of items of expenditure with which we have nothing to do as far as the maintenance of the gardens is concerned. I am a Fellow who took this business up with Mr. Freake. I was not sorry when I did so, because he talked of 20 per cent. for our money [laughter], and said if the Prince Consort would only join in the affair we should be well started. Well, we waited a week or so, and then I went with Sir Wentworth Dilke, and we both got an introduction to the Prince. We could have made a profit of it—at least we thought so, because we calculated that, honestly, care would be taken that no other expenses than those necessary would be incurred, and not other expenses paid in preference to

honest ones. Now, my lord, I belong to the Royal Horticultural Society, but I belong to the Royal Navy also, and if I in the Royal Navy had acted as you have done—so scandalously—with our money, I should have been turned out of the service [cries of "oh, oh!"].

The PRESIDENT.—The sooner you, sir, leave this room the better [cheers]. You are not talking as a gentleman, because you are speaking to me personally who have nothing whatever to do with the matter.

Admiral Sir E. BELCHER.—I say your conduct has been most discreditable and dishonourable [no, no].

The PRESIDENT.—All I can say is, that you are now acting in a way discreditable and disgraceful to the noble service to which you belong [loud cheers]. We are here to discuss the questions affecting the debenture-holders, for whom I have a most profound sympathy. It is impossible not to be sorry that the debenture-holders are sufferers in the way they are [hear, hear]. But I may remark this, that we can gain nothing and may lose much by the use of this irritating and insulting language which, I regret to say, has been used, unnecessarily as I think, upon this occasion [hear, hear].

A DEBENTURE-HOLDER.—I should like to ask the noble Chairman whether it is the intention of the Council of the Royal Horticultural Society to surrender the lease of the gardens to the Commissioners?

The PRESIDENT.—They cannot do that without the consent of the debenture-holders. We have taken legal advice upon this point, but I believe if the debenture-holders wished to make some arrangement with the Royal Commissioners all parties would be glad indeed.

Mr. J. J. LOUNDES.—I should like to ask, Is there any value at present for what has been laid out upon the gardens?

The PRESIDENT.—That would depend very much upon the use made of the gardens.

Mr. E. BOWRING wished to say a word or two about that simple matter of the three-fifths being paid to the debenture-holders and two-fifths to the Royal Commissioners; but this two-fifths went to the Society exclusively. Mr. Bowring went on to say that it was not a fair or a true statement to say that the money was laid out in waste by the Royal Commissioners.

The PRESIDENT.—What I said was that the Commissioners did spend money.

Mr. BOWRING.—Yes, the Commissioners spent £60,000 or £70,000, and the Commissioners built arcades, the Society laid out the gardens and the Commissioners made the necessary outlay. He should like to say a word on the circular which he was glad the Chairman had produced and read. He had the clearest possible recollection of having received that circular. The reason the interest was brought down to 4 per cent. was that the prospects of the gardens were extremely good. The Prince Consort was alive at the time, and everything in connection with the gardens looked well. Besides that the debenture-holders received two guineas in the shape of admission to the gardens. They had a personal admission, or could send anyone they wished in their place. They got in point of fact £7 2s., and even when that was reduced to £6 2s. it was not bad interest to get. In addition to that the debenture-holders were informed that their debentures should take precedence of every other claim after the maintenance of the gardens. At the time referred to it was a good investment to take a debenture of the Society. Another point of importance was this—that all through the agreements "rent" was spoken of, but they must all bear in mind that with the exception of one year the Commissioners never received rent from the Society. It was quite true the word "rent" was used, but it was used only as a lawyer's phrase; but what was really "rent" was the interest on the money which the Commissioners themselves had to borrow at 4 per cent. to lay out and start the gardens. The Commissioners spent £50,000, the Society agreed to spend £50,000, and there was, say, that much raised on debentures.

The PRESIDENT.—The total spent by the Society was £73,000, and the total spent by the Royal Commissioners was £63,000.

Mr. BOWRING.—My point is that our claim as held on these gardens ranks next to the working expenses, and not one single farthing of the £60,000 could be received until you paid us our claim. That has been our legal position. I now come to a much more important point. The noble Chairman has told us we have been paid £5000 improperly. Ladies and gentlemen, as ladies are unfortunately debenture-holders as well as men, when £2000 a year has to be paid to the debenture-holders, any statement with respect to £5000 being paid would represent the interest for two and a half years not paid to us, and that would take us back to the second half of 1873. That second half of 1873 was during the unfortunate dissensions in the Society which commenced early in 1873, and therefore I think we can trace the non-payment of our interest to the unfortunate state of the Society at that period [cries of "hear"]. Had the debenture-holders voted on that occasion, when the whole of the Council were turned out, and when the South Kensington interest took the supremacy, I believe the disaster would not have taken



place. I hold in my hand a paragraph I saw in the *Morning Post* some day last week, and which, to my mind, seems to have been inspired. It says, "The position of the Society is this: It is not in debt, is paying its way, but in want of capital for carrying on its operations. To the debenture-holders £50,000 is due, but they have received in interest at 4 per cent. £30,000 in all." Well, that looks as if we having received the £30,000 should not be very much dissatisfied if we have to put up with a total loss of our money [a laugh].

The PRESIDENT.—I must say I never saw the article myself.

Mr. BOWRING.—Then we have a significant article in the *Journal of Horticulture*. Ladies and gentlemen, it is no secret who the Editors of the *Journal of Horticulture* are. Their names are printed on the front page of the paper, and one of them (Dr. Hogg) is an active and prominent member on the Council. Here, now, in the *Journal of Horticulture* of July 27th is the following very serious statement with respect to the payment of interest on the debenture bonds: "The only fault that can be charged against past Councils is that they should have paid interest on the debenture bonds when a profit had not been made. The interest on these is payable out of the surplus receipts from the gardens, and as it is well known that there has not been, except in two or three years, any surplus receipts from the gardens, the payment of debenture interest was manifestly most culpable. This has, no doubt, been the reason why the Society has been so crippled all along. An annual payment of £1950 for interest alone which was not due would ruin any concern. Happily the present Council have acted more justly towards the Society, and the payment of the interest is stopped." Now, I hold that this is a most curious statement to be made. People have been paid their interest for the last sixteen years, and, indeed, because that is the case we ought to be well content with our present position. Although it is not my business to go against the Society, we ought, as to a statement of fact, have our minds made clear, because if we think the Society has most culpably paid us our interest we ought not to be very happy in our minds. It was my lot in 1868 to act as Honorary Secretary to the Expenses Committee, and that Committee had always laid before them an accurate statement of receipts and expenditure, and also as accurate an estimate as could be possibly made of the receipts and expenditure of the forthcoming year. Upon that statement as to the past and the future was regulated the amount which was to be laid out on the Society as a first charge—namely, the expenses of the gardens. I may state as a positive fact that in former times when I acted as Honorary Secretary, in no single year did the Expenses Committee allow any sum to go for the expenses requisite for the maintenance of the gardens until they satisfied themselves there was a sufficient sum to pay the debenture-holders.

The PRESIDENT.—Were you bound to do that?

Mr. BOWRING.—Not bound; but there always was a sufficient sum in those days to pay them.

The PRESIDENT.—But you put it that the expenses for the maintenance of the gardens had the prior claim.

Mr. BOWRING.—In addition to all that, you must remember we had before us the estimate of the year.

The PRESIDENT.—Then it was spread over a longer period.

Mr. BOWRING.—At all events the minutes of the meetings show that up to the last three or four or even five years the interest was honestly and fully earned, and therefore, to the statement that it was improperly laid out, that I think is a sufficient answer. In conclusion of my remarks I would express a hope that some practical proposal will be made [cries of "hear"]. I think we ought to bring our deliberations to some practical and sensible conclusion. It would in my opinion be very desirable that a small committee of debenture-holders should be appointed to confer with the Royal Commissioners and the Council of the Society, because it is clearly our interest and our duty to place ourselves in communication with them. I am in great hopes that someone will make some such proposal. I may add that three or four years ago the Commissioners made a proposal to the Society which I think the debenture-holders would have received very favourably.

Admiral Sir E. BELCHER.—It does not appear from what I can learn that the debenture-holders are to be present at the special general meeting of the Society to-morrow to represent at that meeting our interests. I should like to know whether at to-morrow's meeting the debenture-holders can come in and vote with the rest?

The PRESIDENT.—Certainly not.

Admiral Sir E. BELCHER.—Then it will be all on one side. If people vote that the debentures be not paid, the voting will be all one side.

Dr. MARTYN.—I may say I have felt it a very great grievance that we have not been admitted to the consideration of all the financial matters connected with the Society. The horticultural matters of the Society are all very well in the hands of the Society itself, but that all the accounts should be arranged and settled without the knowledge of the debenture-holders appears

to me to be a great hardship. I once more refer to the inducement we had to enter the Society. It was because the security was thought to be so good that the reduction in the interest was proposed. I relied entirely upon the *bona fides* of those who had the management of the affair, and possibly the result of this meeting and of the meeting to-morrow will be that the Royal Horticultural Society will come to a dissolution. In that case I should like to know upon whom, if upon anyone, we shall have a lien—that is, on the property in the gardens. Debenture-holders, as a general rule, have always a lien on some sort of substantial property [hear, hear]. I should propose that we put ourselves in communication with Her Majesty's Commissioners and hear from them what terms they are likely to give us, or rather what terms we may look for [hear, hear]. I am not acquainted well enough with the internal affairs of the Society to be able to know whether it is the intention of the Council of the Royal Horticultural Society to bring this Society to a close; and while I am upon that point I would also ask whether, inasmuch as Chiswick gardens are connected with this Society, we have not, in respect to our debt, a lien upon them.

The PRESIDENT.—I think the observations of the last speaker are very well worthy of attention; but I would point out this, that if a committee of debenture-holders is appointed the committee themselves would undoubtedly look into their legal position as to a lien upon the property of the Society, either upon its property here in South Kensington or its property in Chiswick gardens. There will be a great advantage in doing that—indeed far greater than in hazarding legal opinions here which may be all reversed [applause].

Dr. MARTYN.—Then, my lord, I will propose a resolution.

The PRESIDENT.—A resolution has just been put into my hand.

Dr. MARTYN.—Well, probably it anticipates mine.

The PRESIDENT.—At all events I think it is a resolution which will meet the necessities of the occasion.

Mr. G. REAY.—Well then my lord, the resolution I beg to propose is this: "That a committee of debenture-holders be appointed for the purpose of entering into communication with the Council of the Royal Horticultural Society and the Exhibition Commissioners of 1881."

Dr. MARTYN seconded the motion.

The PRESIDENT.—That is the most business-like course which could have been adopted. I should like to say that with reference to a remark made as to a possible dissolution between Chiswick and South Kensington, that is not a matter that properly comes within the limits of our discussion to-day. That is a matter which is entirely in the hands of the Fellows of the Society.

A DEBENTURE-HOLDER.—After that resolution is passed the first thing you have to do is to appoint a committee in accordance with its terms.

The CHAIRMAN put the resolution for the appointment of a committee, which was unanimously carried. His lordship then said: The next thing you have to do is to nominate your committee.

Dr. MARTYN.—Those who form the committee should be thoroughly trained in all the business and affairs of the Society [hear, hear].

The PRESIDENT wished to say, with reference to the remarks of Mr. Bowring, that he was glad to hear a gentleman of so much authority in the Society speak, but did not endorse his statement as to the mal-application of the funds being during the last three or four years. He (the President) only wished to make himself correct, and to show he had not intended to say the mal-appropriation was made within the last three or four years.

Lord ALFRED CHURCHILL.—I may be allowed to remark that we paid during the last fifteen years £30,000 interest on debenture debt. We borrowed through the authority of the Royal Commissioners £5000 to pay our past debts and expenses. Well, it is very evident that if we had not paid that £30,000 we should have been able to clear our expenses without having to borrow that £5000. As to the fact of our being called together to-day, I may state that the bye-laws do not provide for any dealing with the bondholders, but in the exceedingly critical position of the Society we felt it our duty to call you together [hear, hear], because our income is so low that in a short time the gardens would be bankrupt, and then we should be dropped into the Bankruptcy Court. We have also been advised by counsel that the Council of the Royal Horticultural Society cannot resign their lease of the gardens without the consent of the debenture-holders. Therefore it is necessary, both for the interests of the Society itself and those of the debenture-holders, that some arrangement should be made by you through your committee in order to confer with the Commissioners and endeavour to get from them as good terms as you possibly can [hear, hear]. I know it is disputed by the Commissioners and by others that the Commissioners are liable to you for 10s. in the pound, or for one-half of what is due to

you. They maintain this. The debenture-holders say, "Renew our lease." They say, "No, it is forfeited," and then the debenture-holders will rejoin, "Well, then, pay us 10s. in the pound. You introduced the Society here. You brought the Society from Chiswick to South Kensington. You made yourselves joint partners with us; and you have also provided that under certain contingencies you are to receive an extra amount beyond what you now have." Now this, I believe, would constitute a partnership. I think you should go to the Commissioners, and say to them, "Is it not better to come to some suitable terms with us, and enable us to get out of our debts, and enable the Council of the Society to resign the lease?" These are the considerations which should occupy the committee, which should meet at an early day, and they should confer with the Commissioners as soon as possible [hear, hear].

Dr. MARTYN (to the President).—Your lordship is not a debenture-holder?

The PRESIDENT.—No.

Lord A. CHURCHILL.—But I am a debenture-holder [laughter].

The PRESIDENT.—You had better appoint a committee, with power to add to their number.

Dr. MARTYN.—I think Mr. Dick, from his intimate knowledge of the debenture-holders, knows those who are best acquainted with the business. I am to a certain extent a stranger here, and am at a loss to know who should be nominated.

The PRESIDENT.—Suppose you form a committee of seven, name three now and four afterwards. Perhaps that would do as well as any other course [hear, hear].

General Mackinnon then moved, and Mr. George Reay seconded, a resolution to the effect that a committee of seven be formed—that Mr. Reay, Dr. Martyn, and Mr. Doughty be three members of it, and that they have power to choose the remaining four members.

A cordial vote of thanks was accorded to the noble President, and then the meeting was closed.

#### SPECIAL GENERAL MEETING.

A SPECIAL general meeting of the Fellows of the Society was held yesterday afternoon to hear a statement from the President as to the financial position of the Society. In a lucid statement Lord Aberdare (the President) told the Fellows the exact position of the Society, and showed that it was impossible for the affairs of the Society to be carried on under the present expenditure. The noble Chairman placed the position of the Society before the Fellows as utterly hopeless; but, at the same time, said that the Fellows and the public ought to disembarass themselves of the idea that there was any wish on the part of the Royal Commissioners to possess themselves of the gardens. [This was received with cheers.] There followed a great deal of discussion, in which Mr. Godwin, Mr. Guedalla, Mr. Liggins, Mr. Shirley Hibberd, the Hon. C. Butler, Mr. C. Morgan, Lord Alfred Churchill, Mr. Smea, and others took part, and eventually the following resolution was passed:—"That this meeting approves of the policy of the Council in endeavouring to effect a separation of interests between the Royal Horticultural Society upon equitable terms with the debenture-holders and life Fellows, and requests the Council to urge an early settlement with Her Majesty's Commissioners." The resolution was moved by the Hon. C. S. Butler and seconded by Mr. Shirley Hibberd. A protracted meeting was brought to a close by a vote of thanks to the noble Chairman.

#### ROYAL HORTICULTURAL SOCIETY.

AUGUST 2ND.

FRUIT COMMITTEE.—H. Webb, Esq., in the chair. Three bunches of Black Hamburgh Grapes and two dishes of Nectarines (Elruge) were sent from Mr. Edmund Bland, gardener to J. G. Smith, Esq., Cranbourne Court, Winkfield. The berries of the Grapes were very large and fine. A letter of thanks was voted. A red-fleshed Melon was sent by Mr. C. Osman, South Metropolitan District Schools, Sutton, Surrey, but the flavour was inferior. Golden Nugget Melon, a green-fleshed variety, was sent by Mr. D. Davis Hughes, Kimmel Park Gardens, Abergel, but the flavour was inferior. Welbeck Seedling Nectarine was sent by Mr. W. Tillery of Welbeck Gardens. The fruit was of large size, very highly coloured, and of excellent flavour, resembling Elruge, but said to be two weeks earlier. A first-class certificate was awarded, subject to the statement about its earliness being verified. The same gardener sent excellent examples of Grosse Mignonne Peach fully ripe from a glass-covered wall, to which a letter of thanks was voted. A dish of very fine unnamed Red Currants were sent from the Society's gardens; the bunches were very long and fine.

A collection of Indian vegetables was sent by Mr. A. F. Barron from the Society's gardens. The seeds had been sent by Col. Puckle. *Amaranthus oleraceus*, the seeds of which are used to make cakes, and *Atriplex hortensis*, whereof the leaves are boiled as a vegetable. A number of other herbs were in the collection which would be of no practical use in this country.

FLORAL COMMITTEE.—Mr. B. S. Williams in the chair. The subjects brought before the Committee were somewhat more numerous than has been usual of late. Particularly noticeable was a pan sent by Messrs. James Veitch & Sons, containing eighteen small plants of *Begonia Davisii*, a dwarf Peruvian species, thoroughly distinct and extremely brilliant. The plants were small, the leaves being about 1½ inch in diameter, each plant producing one or more spikes of flowers of the most intense orange scarlet imaginable. The flowers averaged an inch in diameter, and the effect they produced was quite dazzling, the colour being very similar to that of the new prolific Poinsettia. This free-flowering and almost hardy *Begonia* will not only prove a charming decorative plant, but will be invaluable for purposes of fertilisation. A first-class certificate was unanimously awarded. Messrs. Veitch had also a first-class certificate for a new greenhouse *Rhododendron*—Maiden's Blush; a very charming variety, the flowers being blush deepening to cream colour. The foliage is of the richest green, and the plant is extremely floriferous. It well deserved the award. The same firm exhibited a very fine *Begonia*—Monarch, the flowers being large and rich in colour, and the plant vigorous; also the hardy sweetly-scented shrub *Olearea Hastii*.

A first-class certificate was awarded to Messrs. Daniel Brothers, Norwich, for *Godetia* Lady Albemarle, a remarkable and splendid variety, far superior to any other of the family. The plants are not more than 6 inches in height, and may be said to be "all flowers." The prevailing colours are crimson suffused with lilac. This is one of the most splendid of all hardy annuals. A similar award was made to Mr. Noble, Sunningdale Nursery, Bagshot, for a new Rose, Queen of Bedders, a seedling from Sir Joseph Paxton, but much richer and altogether superior to that Rose. As many as twenty-five flowers were produced on one truss, and the variety will be valuable for garden decoration.

Messrs. F. & A. Smith, Park Road, West Dulwich, sent a large collection of Balsams, the flowers being exceedingly fine, and the colours distinct and varied. It is an excellent strain, and a vote of thanks was awarded for the collection. Mr. Dean exhibited single flowers of Balsams of no particular merit. Mr. Elliott, seedsman, 139, Bradford Road, Huddersfield, exhibited a pair of Cockscombs, very dwarf and fine; a vote of thanks was awarded. A similar award was made to Mr. Newman, gardener to W. H. Michael, Esq., Highgate, for a collection of *Gloxinias*, *Rasanovias*, and *Tydeas* in very good varieties.

A vote of thanks was awarded to Mr. Tomkins, nurseryman, Sharnhill, Birmingham, for *Tricolor Pelargonium* Miss Rylands, the foliage being similar to that of *Sophia Dumaresque*, but the flowers being quite double and pinkish white. Mr. Chater, Saffron Walden, exhibited *Hollyhocks*, to one of which, *Virgin Queen*, white, a first-class certificate was awarded. Mr. Tong, gardener to J. S. Maw, Esq., Enfield, exhibited well-grown tuberous *Begonias*.

A first-class certificate was awarded for double white *Pelargonium* *Amelio* Baltet (Lemoine). The white petals of this were extremely pure, the pips being thoroughly double and the trusses fine. The plant possesses a good habit, but it would be improved if the foliage was of a darker green. It is an excellent variety. It was exhibited from Chiswick, and had been sent to the *Pelargonium* Society by M. Lemoine of Nancy. From the Society's gardens came plants of *Hydrangea japonica* variegata, some having been grown under glass, and one in the open air, the former showing to great advantage; also an old plant, seldom seen, of *Dolichodeira tubiflora*, a *Tyde*-like plant, with tall spikes and pure white flowers, and but for being old would have been honoured; also small healthy plants of *Cissus discolor*.

#### NOTES AND GLEANINGS.

THE CARPET BEDDING in the gardens at Cleveland House, Clapham Park, will shortly be in perfection, and we recommend all who are interested in this mode of flower-garden decoration to inspect these superlative beds. By the kindness of the owner, Mr. S. Ralli, the gardens will be open to visitors after two o'clock on the afternoons of Tuesdays and Fridays throughout August and September. Last year these gardens were fully described on page 206, vol. xxix., and the beds were there referred to as the best of their kind in the vicinity of London. This year they are totally distinct in design, yet equally effective—indeed the centre bed surpasses the best beds of last year, and is a masterpiece of the art (for art it is as here carried out) of carpet bedding. It were futile attempting a description of this bed, and a diagram of its mode of planting would be little short of a mockery; to be understood the bed must be seen. *Nertera depressa* is extensively planted, and associated with *Sedum glaucum* the effect is charming. *Sedum acre* elegans is also extremely chaste, and the rich green *Sedum Lydium* is this year doing admirable service. But Mr. Legg's greatest "hit" is the introduction, as a green carpet plant, of *Mentha Pulegium gibraltaria* variety of the com-

mon Pennyroyal), it is close, dense, and of the brightest green, quite superseding *Tagetes*, *Cerastium arvense*, and all other dwarf green carpet plants. It grows freely, is perfectly hardy, and requires no pinching. In these beds not a flower is to be seen, and two of them are noticeable as containing no yellow, the colours being all soft neutral tints. Conspicuous in this pair of beds are a series of eardrops formed with succulents and "gems" of *Nertera*. This small garden is highly worthy a visit as containing the most perfect type of carpet bedding near the metropolis, and Mr. Legg is to be congratulated on his success.

— We have received from Messrs. Rivers & Son of Sawbridgeworth fruit of the PINE-APPLE NECTARINE, the largest we have ever seen. Indeed it is the largest Nectarine of any kind we have ever seen. The longitudinal circumference was exactly 9 inches, and the latitudinal  $8\frac{1}{2}$  inches; the weight being 6 ozs. and 3 drachms. The fruit was grown on a standard cordon.

— We very much regret to hear that the numerous small nurserymen and florists in the vicinity of Tottenham, Hornsey, and Leyton have had their crops much injured by the recent severe hailstorm, which was noticed in our columns last week. For this we think a subscription justified, and we are glad that a Committee, consisting of Mr. Fraser, Mr. Ware, Mr. Sweet, and Mr. Mailer, is formed for raising it. These nurserymen have suffered extensively, and the assistance and support which they are enlisting on behalf of those who are less able to bear the losses to which they have been subjected is urgently needed. A meeting was announced to be held yesterday evening at the Green Dragon, Bishopsgate Street, London, to take into consideration the best means of raising a fund to relieve the pressing necessities of the sufferers, the circular convening the meeting stating, after a visit to the places named, that "the injury done to the glass and plants is of such a deplorable nature that it is almost or quite sufficient to ruin" many who were overtaken with the violent storm. Calamities such as these show the importance of insuring in the Hailstorm Insurance Company, and similar losses will doubtless be provided against in the future; but in the meantime assistance is greatly required and will be appreciated. Mr. Fraser, The Nurseries, Lea Bridge Road, London, will receive subscriptions and communications.

— THE programme of the INTERNATIONAL HORTICULTURAL EXHIBITION to be held at Amsterdam in the April of next year has been issued, and may be had from Mr. H. Gronewegen, General Secretary, 5, Oetewalerweg, Amsterdam. The value of the prizes to be awarded should be announced.

— BEFORE concluding (see p. 82) that nothing will destroy the ONION MAGGOT, let your readers pour over the bed attacked water just off the boil, and perhaps they will be surprised to find how much more heat the vegetable can stand than maggot life.—JOSEPH WITHERSPOON.

— A CORRESPONDENT, "A. Y.," writes as follows:—"J. Muir, in his able article on protecting fruit, recommends sour beer in bottles to be hung up in the house for the DESTRUCTION OF WASPS. If any of your readers were to place in the house two or three Tomato plants or more, according to the size of the structure, they would be proof against wasps without going to the expense or trouble of netting, tiffany, or paper bags."

— It is the beautiful and unrivalled forms of FERN-LIFE which fling over Devonshire scenery its almost indescribable charm. Peer at low tide into yon dark and dripping cavern which yawns upon the sea! The bright sunshine that dances upon the rippling waves pauses at the cavern's mouth, as if not daring to penetrate its gloomy depths. But one tiny gleam of light has ventured to cross the threshold; and sparkling on the dripping water, it flashes through the opaque blackness a kind of electric light. As the water falls, drip, drip, into the pool below, the light increases, and then—oh, glorious sight!—you see at the side and on the roof of this lonesome sea-cave the beautiful Sea Spleenwort (*Asplenium marinum*), hiding its roots in the cavern walls, and spreading out its bright-green and shining fronds that they may luxuriate in the dark humidity of its chosen retreat. Or peer over yonder cliff, whose inaccessible sides overhang the seething waves! Look closely into the shady cleft which nestles under yon projecting spur! There you may see, far out of your reach, one of the most rare and exquisite of the British Ferns—the Maidenhair (*Adiantum Capillus-Veneris*). Could you venture near enough to grasp it in your hand you would indeed recognise that it is one of the most exquisite of plants. Its fine, black, wiry frond-stems, like a dark maiden's hair—it is most appropriately named—

rise in clusters from its crown; the main frond-stems being branched with smaller and more beautiful hair-like stems, which bear upon their tender points the delicate light-green fan-shaped leaflets. Wandering through the cool lanes of Devonshire you may, too, meet with the fragrant hay-scented Buckler Fern (*Lastrea amula*) which emits so beautiful an odour when pressed in the hand; with the delicately and transparently leaved Marsh Buckler Fern (*Lastrea Thelypteris*); with the Mountain Buckler Fern (*Lastrea montana*), whose silvery fronds make the air fragrant when you tread upon them in their insipient unrolled state. But these varieties are not to be commonly encountered in every Devonshire lane. And still rarer—though found in Devonshire—are the Lanceolate Spleenwort (*Asplenium lanceolatum*), the tiny Forked Spleenwort (*A. septentrionale*), the Tunbridge Filmy Fern (*Hymenophyllum tunbridgense*), and Wilson's Filmy Fern (*H. Wilsoni*) The Moonwort (*Botrychium Lunaria*), and the common Adders-tongue (*Ophioglossum vulgatum*), are also Ferns of Devonshire growth.—(HEATH'S "The Fern Paradise.")

— A WRITER in "Nature" states that "one of the most valuable products both of Bosnia and Serbia, as at present developed, lies in their PLUM CROPS, many of the peasantry depending entirely on these fruits as the means of subsistence through a great part of the year. The Plums, after being gathered, are mostly dried in the form of prunes, the secret or art of drying being known only to themselves. The Bosnian Plums are considered of a better quality than those either from Serbia, Croatia, or Austria. A quantity of spirit is likewise prepared from these fruits. Amongst other vegetable products of the country may be included Tobacco, Potatoes, Flax, Hemp, Walnuts; and amongst cereals, Wheat, Maize, Barley, Oats, Rye, Millet, &c. Wheat and Maize are the principal food plants consumed in the country, some of the other products being exported in comparatively large quantities."

— As proof of the hardiness of the newer kinds of the TUBEROUS-ROOTED BEGONIAS raised by Messrs. James Veitch and Sons, there are now to be seen flowering in the Chelsea Nursery rows of plants in the open ground, and where the tubers have remained throughout the winter without any protection having been given them further than that afforded by the walls of the houses near which the plants are growing. Other and choicer varieties, which are extremely beautiful, which are being grown in pots, have the lights removed from them whenever the weather is favourable, and under this cool treatment the plants flourish admirably. That the plants require no other accommodation than that afforded by cold frames, renders them additionally valuable. Many errors are made in keeping these elegant and brilliant summer-flowering plants too warm and close. They do not require more heat than Fuchsias and Geraniums. In the Orchid house is now flowering the new *Zygopetalum Sedeni*, the result of a cross between *Z. maxillare* and *Z. Mackayi*, and partaking of the qualities of both parents. The lip is purple mottled with white, the sepals and petals being very dark. This is a distinct and beautiful Orchid, and is as sweet as a Lily. *Lælia elegans alba* is also flowering, and is as beautiful as it is rare, the petals and sepals being exceedingly pure, and the lip of the richest violet-purple imaginable. A most valuable plant.

## CHAPTERS ON INSECTS FOR GARDENERS.

No. 10.

I THINK if there is one insect above others which the majority of gardeners regard with an especial hatred it is the aphid in its multitudinous varieties. Many are the names expressive of dislike which I have heard hurled at these "vile vermin," but I do not remember that I ever heard anyone insult them by calling them "bugs," though bugs they are properly according to our entomological classification. "I am afraid," said I in sympathising tones to a friend the other day, "that this will prove a great aphid year." With a deep sigh he reflectively answered, "When is there a year that isn't a great aphid year?" True enough, not a season is free from visitations of these prolific and persevering parasites; still there are differences, and in certain years some of our garden plants enjoy a comparative repose from aphid attacks, while in other years the cry is, "Aphis, aphis everywhere;" and gardeners are tired of smoking, washing, and syringing. My usual prognostic is a cold May with not much rain and plenty of wind. When that occurs I expect to find aphides abundant; heavy rainfall is objectionable to these insects, and I do not think they like very hot weather.

Proceeding with the second division of the Hemipterous order, to which, when we speak familiarly, we apply the English name "bugs," inelegant though it be, just as we call the Coleoptera "beetles," its importance will be seen from the mention of the aphids and its allies, which, as I have stated, occupy an unpleasantly prominent place in the order, being ranked in the second great division, that of the Homoptera. This word, of Greek derivation, indicates a marked peculiarity in the wings. Whatever the forewings may be composed of, they are uniform throughout, while in the Heteroptera we have two different textures combined in the same pair of wings. Another notable difference between the divisions lies in the mouth, the Homopterous species having it set very deeply in the head, so that, as Mr. Staveley expresses it by comparison, the organs of the mouth seem to spring from a part which in a man would be represented by the under side of the chin near the breast. There is, of course, the usual proboscis with bristle-like mandibles. Many of the females have ovipositors; and the female aphides in their power of producing fertile insects like themselves without intervening stages present us, as we shall see hereafter, with a curious and long unsuspected anomaly in insect history. Almost all these species are stout-bodied, mostly with short antennæ (but a few species have them very long), and the power of leaping is possessed by a good proportion of the species, though they do not invariably use it. Only a small section of the Homoptera is vocal, the rest of the species pursuing their work in silence. Also there are some luminous species, the Lantern Flies of warmer climes having their place here; of that group of the order we have English representatives, but not light-givers. All the species are terrestrial and pacific—I am not aware of one that preys upon its fellows; and as to the transformations, it is sufficient to state that the larva and pupa are not unlike the imago except in size, the pupa being active, exhibiting generally the wings partially developed. Some conceal themselves with substances exuded from their bodies.

The Homoptera break very easily into three natural groups, concerning the first of which I need not say much. In the Trimera the antennæ are very small, with either three or six joints, and the tarsi or feet also possess three joints. The family Cicadidæ only contains a solitary and rare British species, *Cicada anglica*, furnished with those vocal powers which have made these insects famous for ages. So deafening is the sound produced by troops of the Cicadas in tropical countries that they have been heard miles off, the male insects alone, however, thus making themselves notorious. In some districts these are called "grasshoppers," in others "locusts," from a notion of their destructiveness; but we have in England no representatives of the family that are injurious, though there are several species with beautifully veined wings which occur sometimes about meadows and woods. To the next family, the Fulgoridæ, I need devote little space; it is distinguished from the Cicadidæ by the position of the antennæ, which are inserted below the eyes. Though we have forty species or more in these islands, they rarely visit gardens or make themselves obnoxious by their habits, leading a retired life, and needing to be hunted up by the microscopist, who occasionally seeks them to make an object of the beaded and delicate forewings. Abroad, chiefly in South America, the Lantern Flies belonging to this family add brilliancy to the evening landscape by a light beside which our glow-worm sparkle would be but feeble. In the Cercopidæ, the third family of the Trimera, the insects are leapers, as are those in the last family, but the antennæ are situate between the eyes, not beneath them. The very abundant species called the Frog hopper, or Cuckoo-spit, is a good example of the family, though it is certainly devoid of any connection with the frog or the cuckoo. It may be noted, however, that the appellation "Frog hopper" is not incorrect, if we understand it as applying to the leaping habits of the perfect insect, though it is probable the origin was in a belief that the frog produced the spume or froth in which this larva is concealed. *Aphrophora spumaria*, the Latin name, is applicable enough to this particular species; and the generic name indicates the habit prevalent amongst its brethren, for in truth we have many of these Frog hoppers, though *A. spumaria* is the commonest. The frothy substance surrounding these larvæ is of course sap derived from the plant on which they are feeding, yet I think it is sap which has passed through the process of secretion, and not just as it leaves the plant. Oftentimes after rain the larvæ may be seen exposed, but they make all haste to involve themselves again in a liquid which protects them from the sun

and also from the attacks of enemies. As these Frog hoppers waste thus more than they need as nutriment (for at times the froth flows down in good-sized clear drops), plants infested by them must suffer a loss of vitality; I must admit, however, that naturalists have argued otherwise, believing, perhaps, that bleeding may be as good for plants as our ancestors thought it was for the human body. Necessarily many gardeners do not connect the mature Frog hopper—leaping from leaf to leaf with a jump said to represent a spring of 400 yards, supposing a man could leap so far in proportion to his size—and the frothy deposit on the bushes in early summer. All the Frog hoppers have roof-like wings, also a curious enlargement of the front joint of the thorax, which in two or three species sticks out like a kind of keel, covering the wings. *Ptyelus bifasciatus* is a singular individual in this family, having the wings crossed by two bands, while the ground colour in different specimens is of various shades between grey and black. *Cercopsis sanguinolenta* is a species with vivid tints of scarlet, and a velvety appearance in the wings caused by a crowd of minute rounded spots of black. It haunts Ferns, though fortunately it is an uncommon insect.

The second section in this subdivision of the Hemiptera is called Dimera from the feet having only two joints; the antennæ are also longer than in the Trimera, the wings being usually carried by those imagos that possess them in a roof-like position. If I name the family of the Psyllidæ first it is not out of compliment because these insects are of any service to the garden, for the case is just the reverse, but their being endowed with the power of leaping; the ten-jointed antennæ and the large thorax seem to place them in advance of their brethren the aphides. The two families are often confounded by the ordinary observer, since the Psyllidæ, though able to jump, do not always exert this faculty, and in size and habit the families are nearly alike, even to the possession of certain species which can waft themselves along by small tufts of a cottony exudation, in which at other times they find concealment. One or two species of the genus *Psylla* have been called "Hoppers," and others have received the name of "Chermes," quite as un-English as the appellation "Psylla," though some writers think it preferable. *Psylla Mali* has, doubtless, been frequently supposed to be the hated "American blight," for it is surrounded during its larval condition by a mass of whitish threads, which may be deemed to represent in a different form the saliva of the Cuckoo-spit or Frog hopper, and like that the cottony substance is secreted, not manufactured, by the insect. The specialty of these larvæ is the bud of the Apple; at times the imagos may be seen on the trunks of the trees in little parties, conspicuous, though so small, from their brilliantly white wings and yellow-ringed bodies. The Pear also has its kindred pest in *Psylla Pyri* similar to the Apple-haunting species, save that the body is greenish. This species is discovered to make at one period the young shoots the object of its attack, at another the blossoms, and it has even been discovered upon the fruit. These larvæ do not exude a cottony covering, apparently as a rule finding protection in their numbers, nor has it been ascertained that this and others of the Psyllidæ have so many parasitic foes as have the aphides. The gardener's most effectual modes of "settling" them are, I suppose, fumigation with tobacco or similar narcotics where that can be done, and washing the trees infected. That beautiful plant the Camellia, source of much care and trouble as well as enjoyment, has its Chermes as well as its aphid and its coccus; and *Psylla Cratægi*, though thus named, is a visitant to the houses where Camellias are congregated together, disfiguring the plants or checking their growth. Hardly a Box tree grows anywhere which has not had the mark of *Psylla Buxi* set upon it; in this case the insect does not appear to exhaust the strength of the shrub, but it gives an ungraceful look to the ends of the twigs and branches. The Rose, too, has its parasite of this family in the form of an insect known as *Typhlocyba Rosa*, which often escapes particular notice amongst the multitude of enemies attacking the queen of garden flowers.

The Psyllidæ do not, I believe, produce honeydew in any instance, this peculiar substance being attributable to aphides only. These important insects I must defer my notice of until the succeeding paper; but as the season when honeydew is principally conspicuous has recently passed over, I will here make a few statements with regard to it which may serve to set some gardeners thinking on the subject. Of course I do not submit them as certainties, like geometrical axioms, and I shall be glad to be corrected by those whose opportunities of



observation have been more extensive than mine. Honeydew, then, as I take it, is not exuded from plants under any circumstances, but it closely resembles vegetable juices, because, though deposited by aphides, it undergoes little change in the process of secretion. Secondly, it is usually, but not invariably, connected with migrations of aphides, the insects on arriving at a new locality depositing honeydew on the upper surfaces of the leaves; they may possibly leave honeydew behind them on departure, but this is doubtful. Thirdly, honeydew does no injury to the plants on which it is found, though it is important as a sign of aphid presence. Fourthly, although it has been thought that honeydew is connected with certain states of the weather, it is only in a secondary sense, because those states of weather have to do with aphid migrations. Fifthly, these migrations very frequently occur on dull days in spring or early summer when there is but little wind stirring and the air is dry owing to the wind being easterly. If aphides generally travel with an east wind, there would be additional reason for regarding breezes from that quarter as blighting and inauspicious in their effects.—J. R. S. C.

### WHITE TRUFFLE AND OTHER RARE FUNGI.

It has frequently been remarked that while certain kinds of fungi appear every year in the same locality, others are extremely capricious as to the time of their occurrence and the number of specimens produced. A single specimen, for instance

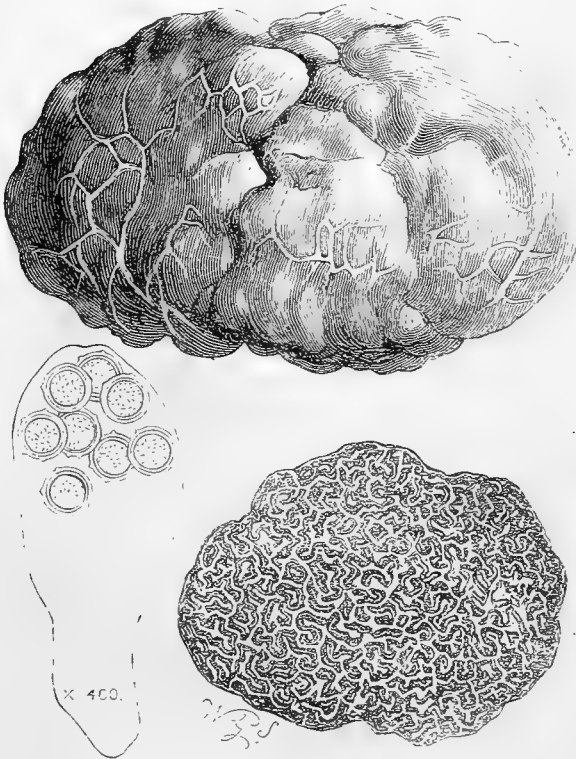


Fig. 9.—White Truffle.

of *Paxillus paradoxus*, an Hungarian species, occurred last year, one in the west of England and the other in Kent, and in both instances was perfectly new to the British mycologist. The genus *Sprassis* was utterly unknown in this country till lately, but has now turned up in more than one locality. The White Truffle of Sowerby is a remarkable instance of the excessive scarcity of a particular species. From the time when it was figured by Sowerby a single specimen only occurred to Mr. Currey at Blackheath; Cooke found one also, and it has occurred in Herefordshire, and we have heard that it has lately been found under Oaks at Windsor—a species, it may be remarked, which has never been found by Messrs. Tulane in their numerous researches, though it was not unknown to Vittadini. Corda appears to be the only one who has hitherto met with it in abundance, and excellent figures are given from his pencil in Krombholz grand volume. It was therefore with peculiar

pleasure, during an excursion to the very interesting grounds of Rockingham Castle in Northamptonshire, that fine specimens of this rare plant were given to us by the excellent gardener Mr. Brown, who has found it more than once under Oak trees, not truly subterranean, but just peeping out of the ground, as is sometimes the case with the common Truffle, as in Somersetshire, where we have seen it cut in half in mowing the lawns.

The White Truffle appears to be very common in Bohemia, where it occurs in shady woods, and is much valued on account of its delicate flavour. It is too rare in this country to make it of much importance.—M. J. B.

### FEATHERED HELPS IN GARDENS.

Of the value of peewits in gardens my experience enables me to speak in the highest possible terms of approval. For some years I was in a garden in which seagulls were kept as grub-scavengers; also hawks as bird-scarers, and both kinds of birds were extremely useful. I was in another walled garden in which was enclosed from two to half a dozen peewits—plovers—as the birds could be obtained, and I found these birds decidedly preferable to the gulls.

Than peewits no birds can possibly be more diligent in hunting-out and devouring slugs, snails, and grubs of all kinds which infest the garden. I have seen them run their long bills round the crowns of Strawberry plants, passing from plant to plant for an hour together, and many times I have watched them insert their bills as deeply as possible into the surface of bare ground and “fish-out” worms and grubs. I have seen them try the ground for a hundred times in succession in searching for hidden food, and seldom searching in vain, finding by a wonderful instinct what human eyes could not see or man's reason fathom.

These birds were treated as advised by “WILTSHIRE RECTOR” on page 72, being cared for and prized as valuable assistants, also ornamental. Yet as stated, kindly as they may be treated, they will escape if an opportunity is afforded them, but after a time they become in a measure tame, especially when three or four of them have been preserved together for a few years. On one occasion by a neglect of the timely clipping of one wing of each bird, one of birds became able to fly perfectly, and did fly over the tree tops but not far, and “returned to its mates” in the garden, but at length, after perhaps having returned a hundred times, it flew away altogether.

During a severe winter, although the birds were fed, they died, and for three seasons we were without peewits, and year by year the injury from slugs and snails became greater, rendering liming and hand-picking necessary to preserve the crops of vegetables and Strawberries. More birds were eventually obtained, and slugs and such-like vermin gave us no more trouble. Where these birds can be preserved between walls they may be safely left to look after the slugs. The birds are ever foraging and ever devouring, and of the greatest value in a garden, and not, on the other hand, doing the slightest harm in any way.

But, as has been well said, they must have water at all times, and food also in frosty and very dry weather. They must also be placed under shelter during a long period of very severe weather, or be they ever so well fed they will succumb to the cold. We used to place them in cold pits or frames when the frost was protracted and unusually severe. In districts where the birds inhabit, young birds may be purchased for 6d. each from boys working on farms.

It is remarkable that old egg-hunters know immediately on entering a field not only whether there are any nests in it, but whether the nests contain eggs or whether they contain young birds. This information is given by the peculiar flights and noise of the old birds: if these are not understood the discovery of the nests is most difficult, but if the habits of the birds are known their nests are found with certainty and ease.

These birds are as useful in gardens as cats are in barns, and I cheerfully corroborate all that has been written of their value.—A LINCOLNSHIRE GARDENER.

### BISHOPSTOWE.

WALKING from Torquay, and turning from the cliffs of Anstis Cove to reach some one of the neighbourhood's special lanes, I came in sight of Bishopstowe. This is a modern residence, built and named by Dr. Philpots, formerly Bishop of Exeter. He purchased the ground, made it his favourite

residence, and died here. His executors sold it to its present occupier, Sampson Hanbury, Esq. The house is descended from by two terraces ornamented by flower beds, and overlooks the gardens. The dressed grounds are four and a half acres, and the kitchen garden one and a half acre in extent. The soil is not good for gardening, clay predominating; but this suits the Roses, which are superior, and, which I did not expect, a selection of Conifers. There are only two specimens which are not thriving. Along each side of the main walk is a row of Columbines, the most varied in form and colour that I have yet seen. Geraniums are outdoors throughout the year, but they were killed by the frosts of last winter. The crop of Grapes is very good and regular, but early forcing is not desired, and the Black Hamburgs and Muscats are grown in the same house. Every department is well cultivated, and

to know whether the plant is naturally and healthily casting its leaves or no. If a fine glossy green or well-mealed white growth is being developed as the large outer leaves decay the plant is all right. I do not like to see an Auricula lose its foliage almost as fast as it gets it, nor a leaf decay out of its turn—that is, before the older foliage outside it dies; nor again to see leaves curled with yellow streaks that seem to cripple them. I should not wish to pronounce hastily upon your correspondent's plants, still less to mislead him. Perhaps I may hear again if nothing I have said agrees with his case. But certainly at this time the Auricula is parting with its large outer foliage, and the plants are starting into active growth at the heart.

Should your correspondent ever, in his young days with the Auricula, be suddenly made anxious to know whether they are



Fig 10.—BISHOPSTOWE.

bears witness to the care and skill of Mr. William Wood, the head gardener.

The broad border of the central terrace walk is planted with mixed Gladioluses next the wall, then a row of *Tagetes signata pumila*, then a row of *Geranium Vesuvius* and a row of Mrs. Pollock *Geranium*, edged with *Lobelia Blue King*. The narrow border next the high wall is planted with *Zinnias*, *Asters*, *Stocks*, *Helichrysums*, and mixed *Geraniums*. The vases, about eighty in number, are filled with various *Geraniums*, edged with *Sedums*, *Lobelias*, &c.

There are many plants that grow and thrive here that require a greenhouse in the eastern counties. *Myrtles*, *Veronicas*, &c., are quite hardy and flower out of doors. Fine plants of *Veronica* are here 8 feet high and in fine bloom, and usually continue in flower up to Christmas. The *Roses* were spoiled by the hot weather, and the kitchen-garden crops suffered from the same cause, the soil being shallow, resting on the limestone.

#### AURICULA LEAVES DECAYING.

FROM your correspondent "ALFRED" come two large yellow leaves with the complaint that many are turning so. There is nothing about the specimens sent to indicate any other process than that of natural decay. They seem to have belonged to the blooming foliage, which at this season is ready to pass away in proportion as the autumn growth sets in. It is easy

right or not, and have no florist friend at hand to consult with, I can refer him to a very trusty informant, probably close by, who will tell him at a glance. Let him seek out a bunch of any common border Auricula in his own or some old-fashioned cottage garden, and the phase of rude health which these untutored savages will exhibit is just the condition that his cultured plants should show. He will only feel sorry that there are no such clumps of Page's Champion in existence.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

#### OUR BORDER FLOWERS—MONARDAS.

WE need not for one moment hesitate to say that *Monardas* though a small family are among the neglected plants; seldom seen and less cared for; mistaken by many for *Salvias*, from which they are quite distinct; said to be from North America; introduced to us so long ago as 1656. We sometimes come across one of these fine old border flowers, and when met with we often find an unsightly object. Left to themselves they soon get into a semi-wild state, as though they wanted to hide from our view. When well in hand they are of robust habit, and have a graceful appearance in open spaces in shrubbery borders. In moderately good soil they will do well and in a great measure look after themselves, bearing a good deal of rough usage, and living often a long time.

We seldom see more than one or two of this family in cultivation. *Monarda purpurea* and *M. didyma* are sometimes

met with. There is a white kind called *Monarda Russelliana*, a very desirable plant of much less habit than the foregoing, but when cared for and well established is a very attractive plant, continuing in bloom for a long time. *Monarda gracilis* is the least of the race; its purple flowers prove attractive in our borders.

There are other kinds equally ornamental, but I fear that some of them only exist on paper. They do not require the attention that some of our border flowers do. They thrive in ordinary garden soil, but they are the better for a little liberal treatment in the way of fresh loam and well-decomposed manure when replanted, which is best done in spring when growth has commenced. When the flower stems rise they are the better for being thinned; they show themselves to greater advantage. They are the better for being neatly staked to prevent them being broken by the wind. Increased by division in the spring. When in good condition they are useful for exhibition, and will repay any extra labour they may entail on the cultivator.—VERITAS.

### TODEA SUPERBA AS A ROOM FERN.

THERE is a pretty general impression that it is difficult if not impossible to grow this exquisitely lovely Fern in the sitting-room. It may interest some of your readers to know how it may, by very simple means, be reared to the greatest beauty—and, I am satisfied, if this were necessary or desirable, to exhibition size—with much less trouble or difficulty than any one of the *Adiantum* type.

Four years ago our plant was a tiny seedling with a couple of fronds barely an inch long, and we were warned by everyone that it would be dead in a month. The first object was to secure it so far as could be done in a sitting-room constantly occupied, and the greater part of the year with both gaslight and fire heat—its natural conditions—a damp atmosphere, very moderate light, and complete exclusion from direct sunrays. With this view the thumb-pot containing it was sunk to rather over its brim in a shallow seed-pan filled with live *Hypnum* moss, and a bell-glass placed over the whole. A 3-inch one was at first sufficient. We chose *Hypnum* in preference to either sphagnum or any of the dwarf *Selaginellas*, in the hope that it would keep always fresh and green under these conditions—a hope which has been amply fulfilled. At varying times—from once in ten days to once a month according to the weather—*Todea* and moss alike were dewed well over with tepid water through a fine rose, the glass being at once replaced.

This treatment has been ever since continued, the containing vessel and the bell-glasses being enlarged as required. It now more than fills a 24-inch glass, the largest I have been able to procure. There are upwards of fifty fronds, from 8 to 15 inches long, and 6 to 9 broad; and were a larger glass procurable, or greater size manageable, it could be easily grown to rival the largest exhibition specimen. The persistence of the fronds is extraordinary. Only three have ever been cut away, and these were so because they had been partially scorched by the sun having accidentally struck on them where they touched the glass.

Its position has always been on the floor, at a north bow-window, under a large Wardian case, which to a great extent shades it. In these circumstances a certain degree of blanching might have been expected. On the contrary, the depth of the green far surpasses all I have seen in any specimen grown in the ordinary way; the fronds are always gemmed over with myriads of tiny diamonds, and their delicate transparency is such that on holding a sheet of white paper behind one of them its whole interior structure comes into view. Direct sunlight is never allowed to strike on it. It has only once been repotted, a few months after we got it, and then only into a 3-inch pot, in which it still remains. On that occasion we found that nearly all the curious filmy roots had left the pot, striking over its surface and rambling all through the *Hypnum*. It has never since shown the least sign of being straitened for pot room, or failing to find in the moss all the sustenance it needs. The moss, again, was supplied with no soil whatever, and has all along maintained the most vigorous health, and a delicacy of beauty almost rivalling that of the *Todea*, apparently from the slow decay of the lower portions of it.

For two or three years it has been seeding freely; and it is not easy to give an idea, to those who have not seen it in this state, how the tiny, jet-black gleaming sporangia add to the beauty of the fronds. Unlike any genera I can at present

recall, these fertile fronds remain persistent and do not decay. Last year one or two seedlings were discovered struggling up through the moss, one of which was safely potted-off, and is now being brought up, with every prospect of success, exactly like its parent. This year there is the appearance of a large crop of this, though of course it is doubtful whether they will not be overpowered in their first conifer-looking stage by the *Hypnum*.

The plant was one of a large batch of seedlings raised by Mr. Patterson, Millbank, near Edinburgh. Whether it has to some extent “sported,” or whether one or two peculiarities are due to the way in which it has been grown, I cannot say. These peculiarities are, that the stipe is longer than in the normal form; the fronds are more triangular in form; and they are also more “fuzzy,” as my daughter, whose pet it is, calls it. I incline, however, to think there has been a slight degree of sporting, as our seedling, so far as we can yet judge, though under the very same treatment, approaches much more closely the normal type.

Any of your Fern-loving readers who may be induced to try the experiment will, I am satisfied, find this exquisite species, once started, give less trouble to grow to full beauty in fire-heated, gas-lighted rooms than attends our own Lady Fern, by following out this mode of culture, or such modification of it as may occur to them. The essential points are—a constantly damp atmosphere around the plant; a considerable degree of shade and careful exclusion of direct sunrays from it; and any free loose medium, such as *Hypnum* or other dwarf moss, through which the roots may ramble.—M. (in *The Gardener*).

### NEW EDITION.

*The Tree-Lifter, or a New Method of Transplanting Forest Trees* By Col. GEORGE GREENWOOD. Third Edition. London: Longmans & Co.

We have mentioned favourably the previous editions, and it is for the information of new readers that we quote the following passage from the volume:—

“Among the advantages of transplanting with ‘the tree-lifter’ may be reckoned its cheapness. Its simplicity is such that the whole may be performed, and even single-handed, by a common day labourer. One man may plant one tree per day of from 25 to 30 feet in height. To transplant trees without the ball of earth requires great skill, care, labour, and expense in tracing out the small fibres of the roots, whose extreme points, with their supposed spongioles, could by no delicacy of operation be retained, and which after all are nearly valueless. All transplanted trees are the better for being watered, but with the ball of earth this is by no means necessary. To transplant without the ball of earth, and not to water for at least two summers, is hopeless.”

### WARDIAN CASES AND FERNERIES.

[From the Transactions of the Massachusetts Horticultural Society.]

PLANT CASES as we know them are classed under two heads—first the Wardian case, in which are grown foliage plants, Ferns, &c.; plants too large or too coarse to look well in a small case. Although the first Ward’s case was only a bottle, in which by accident Mr. Ward discovered that plant life could be sustained, from some cause or other we seem to have adopted the name Fernery for cases that are covered with a glass shade, in which only the more delicate or smaller varieties of Ferns are cultivated. The schedule of this Society limits the size of the Fern case to 15 inches in diameter.

In drawing a line between the Wardian case and fernery, the Flower Committee ruled out a case put up for competition that was filled mostly with foliage plants, deciding that such plants were not admissible to a fernery except when they were of such size and character as would not interfere with the general beauty and harmony of the whole, and then only in a small proportion to the number of plants used.

In this article I will endeavour to give some experience I have had with cases varying in size from 4 to 15 inches in diameter.

The case may be made of tin, earthenware, or wood; it matters not which, so long as proper regard is had to drainage. This, as in Wardian cases, is of vital importance to the healthy growth of plants under the Fern shade. I say this is of the first importance, as many persons who have the management of ferneries use so little judgment in their care, that

without a proper outlet for water the cases soon become perfectly sodden. I have seen more plants destroyed in cases from the want of drainage and from overwatering than from any other cause. Most of the failures I have met with have arisen from either too much water or too little light, and frequently both combined, although the persons having them in charge have strenuously denied that any more water had been used than the plants required, and have insisted that they were placed in a very light situation. The light situation is usually quite a dark one—generally a space between two windows, with a dead wall behind it, or in a corner receiving a little light obliquely from a window 2 or 3 feet distant. When the plants are turned out it is found that they have been treated as aquatics, and kept fairly up to their knees in mud and water. Then people wonder at their want of success.

The HANGING FERNERY was my first attempt in this direction. I designed it to take the place of the hanging basket, which so seldom appears in good condition in the home. The case was turned from walnut, several pieces being glued and nailed together to get the proper depth, and also to keep the wood from warping. It tapered to a point at the bottom, to give lightness to its appearance. A zinc pan with a rim to receive the shade fitted the case loosely enough to be readily removed when watering was necessary. This case as first constructed was covered with a shade 8 inches in diameter and 10 inches high, and was suspended by silvered copper wire. The case first exhibited in this hall in June, 1871, had a shade 12 inches in diameter and 14 inches high; was elaborately trimmed from maple and walnut, ornamented with ebony trimmings, and filled with the following named plants:—*Onychium japonicum*, *Adiantum assimile*, *A. cuneatum*, *Selaginella Wildenowii*, *Panicum variegatum*, *Fittonia Pearcei*, *F. argyoneura*, *Lycopodium denticulatum* var., and *Mitchella repens*, some Lichens and Wood Mosses. It was awarded the Society's silver medal.

This case when taken from the hall was suspended in my window, where it received the morning sun for about an hour each day, and was not disturbed again till January, excepting when it was occasionally turned to the light. It was then a mass of green. I noticed considerable soil on the glass, carried up by slugs in their nocturnal rambles; also some decayed fronds of the *Adiantum*. Altogether it was as much of a success as a close case could be, and would probably satisfy most people who grow plants for home decoration.

There are some plants that seem better suited to a close case than to any other situation. They are confined chiefly to the Lycopods and Selaginellas. Many of them are very beautiful, rivalling, and in some cases closely resembling, their allies the Ferns in beauty of form and delicate feathery appearance. They make superb specimens grown singly under a shade; and I consider this the most satisfactory way to grow them, having the case large enough to fully develop their beauty of form and habit. Their growth is generally quite rapid, and to anyone who delights in a well-grown plant the culture is worth trial. *Selaginella Lyallii*, *S. africana*, *S. plumosa*, *S. umbrosa*, and *S. triangularis* make quite large plants and are erect in habit. There are many others usually found in plant catalogues, and as far as I have tested them all are eminently fitted for close cases, and their growth is much more rapid than when grown outside. I usually combine them with Ferns in the arrangement of a case, and think the effect is much better for the combination.

The *Fittonias* are another class of plants which are favourites with me. Their bright crimson and silver veinings are a great acquisition to the fernery, lighting it up wonderfully, and seemingly never out of place, no matter what the size of the case may be. They also make superb plants by themselves. I once had a plant of *F. gigantea* which filled a shade 12 inches in diameter and 14 inches high. It was the finest plant of the kind I ever met with. Its habit became erect, and the colour of the foliage seemed very much more brilliant than we ordinarily find it. But the variety is too coarse to be grown satisfactorily with small Ferns. The Wardian case is the more suitable place for it. *F. Pearcei* is the best for all purposes; being a vigorous grower a mere scrap soon produces a good plant, and it will live under almost any treatment in a close case. Its habit is not so recumbent as when grown without. *F. argyoneura* is very beautiful, but it has one fault—that of damping-off when it is chilled, thus spoiling it for winter use, unless in a very warm situation: but it is just the plant for summer use. There are so few plants of a white or silvery appearance suitable for this purpose, that I use the

*Fittonia argyoneura* as long as the foliage will hang together, and then replace it with something else.

A few weeks since I had the good fortune to be shown a plant of *Todea superba* growing in a Wardian case. The case was about 2 feet square, and as many feet high, with a flat top. A pan about 8 inches in diameter, filled with this truly superb plant in vigorous growth, occupied the centre. Other Filmy Ferns were planted out in the case; but this, the grand object of the whole, was elevated several inches above the others, showing conspicuously its full beauty. An English author says of it, "Delicate and fragile, with its semi-transparent fronds, it looks like tufts of the most beautiful seaweed plucked from the decorations of a mermaid's ocean home." I have seen larger plants of this species, but none in such fine condition. It was grown in a cool room near a west window, the light partly obscured by a drawn shade. This plant is just the thing for a large Fern shade, as it needs as little air as the Selaginellas, very little light, and a cool situation, and when once established needs but little attention. The Filmy Ferns are eminently fitted for growing singly in cases by themselves. The only objection is the expense of many of them, but I would rather have one plant of *Todea superba* than dozens of ordinary Ferns.

The great difficulty I have always found in ferneries is to reach the plants after they have filled or partly filled the case. It is easy enough to remove the shade, but to replace it so that the plants may retain their former position is not so easy. This is so with regard to delicate Ferns; the fronds will tip about, look out of place, and otherwise mar the arrangement. If you could only reach them from the top all would be remedied very quickly. Frequently I have been forced to allow a large slug to have his own way rather than disturb the shade when the case was looking well, and in many instances have allowed decayed fronds to remain rather than run the risk of destroying the arrangement by removing the shade. It was almost as much on this account as for ventilation that I constructed the dome-top or ventilated Fern case, which is as easily managed as an ordinary Wardian case. Lifting the dome does not disarrange the plants, as they are all confined within the cylinder, which need never be disturbed for this purpose. This case is constructed as follows:—

The case or stand is of wood, 6 inches deep, and resting upon three small feet. There is a large opening underneath, covered with a moveable slide to admit or exclude the air. It has a zinc pan one-half an inch less all round than the wooden case. This half-inch space is covered all around at the top of the pan, which leaves a flat surface of zinc 1 inch wide, with an outside rim to receive the glass cylinder. This flat surface of zinc is pierced with half-inch holes in its entire circumference about 3 inches apart. When the glass cylinder is in place the half-inch holes are inside the case. The cylinder, of annealed glass, fits neatly into the zinc rim, and is 15 inches in diameter by 14 inches in height. Encircling the upper edge of the cylinder is a copper rim 1 inch wide, with edge turned downward on the outside a quarter of an inch wide to fit on to the cylinder. The flat surface of the rim is perforated with quarter-inch holes, and the inner edge turns up a quarter of an inch to receive the dome or cover, which is 8 inches high and 12½ inches in diameter. The holes in this copper rim are on the outside, so that when the valve in the bottom of the case is open the air passes up through the holes round the zinc pan and out at the copper rim. The whole case when complete stands 29 inches high from the table.

This case was first exhibited in 1873, and was filled at that time with *Onychium japonicum*, *Adiantum cuneatum*, *A. assimile*, *Panicum variegatum*, *Selaginella Wildenowii*, *S. stolonifera*, *S. Martensii*, *Fittonia Pearcei*, *F. argyoneura*, and *Lycopodium denticulatum* var. A perforated cocoanut shell filled with *Adiantum assimile* was suspended from the top, giving completeness to the whole. This case is quite an expensive one, and can never become popular on that account; but for convenience in the management and culture of plants it has no rival. It received the Society's silver medal at the time of the first exhibition.

Generally, too many and too large plants are crowded into the fernery, giving it a heavy and unsightly appearance, and filling the shade completely at the outset without room for further growth. Dracenas and other plants of this kind make a fine display in the Wardian case, but are certainly out of place under a glass shade. I know it is very difficult even for those too who are not wanting in taste in other matters to understand this.



There are very few foliage plants that can be introduced into the fernery. I would recommend only plants of dwarf habit, such as *Panicum variegatum*, a very pretty Grass, with pink, white, and green foliage; and a small variety of *Bambusa*. *Cyperus alternifolius* var. is quite pretty when a small plant, but the growth is almost too rapid for a Fern case of an ordinary size. The foliage is light and graceful, and contrasts prettily with Ferns. It is a charming plant for the Wardian case.

Rockwork in a case of the size just described has a very pretty effect when well arranged. This is a difficult matter to accomplish, and I generally prefer the case filled with plants rather than rocks, though for variety I occasionally introduce them. I use coke and pumice stone soaked in water, and sprinkled with cement to give colour. These substances are very light, and answer the purpose well. Quite small plants only are fit to be used with the rocks.

I have had this ventilated case filled with the following named plants, and the effect was highly satisfactory:—*Nephrolepis exaltata*, *Adiantum colopodes*, *Onychium japonicum*, *Selaginella umbrosa*, *S. Wildenovii*, *Panicum variegatum*, *Lycopodium denticulatum* var.; near the glass *Fittonia Pearcei*, *F. argyroneura* and *Peperomia maculosa*, and suspended in the shell a plant of *Selaginella oesum*. This last is the prettiest basket plant I have ever used for summer decoration.

Among our native plants are many charming Ferns that will soon accustom themselves to the confinement of the case. *Asplenium ebeneum* and *A. trichomanes* are very pretty Ferns for rockwork; *Adiantum pedatum* is a lovely Fern for a case, but requires rest in winter. *Polypodium vulgare* is pretty by contrast with those more delicate. There are several *Selaginellas* which will soon become quite at home in the Fern case, and will be valuable acquisitions. *Equisetums* are pretty, and so different in their character and foliage from other plants that one would hardly wish to be without them. Almost anywhere in the woods and swamps beautiful and delicate plants may be found that will grace any fernery. Many gems are often discovered in this way. A favourite of mine is the *Mitchella repens* or Partridge Berry Vine, which takes readily to the close case, its bright red berries remaining perfect in their beauty for a long time. This plant always produces a wonderful effect, and there is nothing prettier for any case, no matter with what else it may be filled.

**Management.**—In the selection of a Fern case I should choose one with an outlet for drainage. This I have already said is very essential, especially for a novice. If there is no drainage water must be used very sparingly. Crocks and small pieces of charcoal, covered lightly with old moss to keep the soil from sifting down through, are the best for drainage. I prefer a case constructed of wood. For a case that will require a shade 12 or 15 inches in diameter, take three pieces of plank—walnut or other hard wood—2 inches thick, fasten them securely together with glue and screws, forming a solid piece of wood 6 inches thick. The inside of this piece of solid wood is to be removed by the saw, leaving only a rim to support the zinc pan, which is to contain the soil. This wooden rim, which is to be turned in finishing, can be ornamented if you wish. The case when complete will last for years. The heat and dampness will not affect it provided no water is thrown over it. A zinc pan, with an opening in the bottom for drainage, fits into the wooden case. The pan is made with a rim to receive the shade; this will prevent water from coming in contact with the wood. This wooden case will cost about double the price of one made of earthen or lava ware; but it presents a better appearance in the room, and there is no trouble from scaling-off or cracking, as is often the case with earthenware. Very few of the latter are properly constructed for drainage, therefore I would recommend a wooden case. The larger the case the more satisfactory it will be. Frequently in selecting a case one has to be guided by the space he can afford for it; but I should say the larger the case the better. I have had cases no larger than 4 inches in diameter, but of course they were mere toys, though better than none if you have space for one no larger.

If you have a wooden case designed for a shade 15 inches in diameter make it 6 inches deep. This will give you 2 inches of drainage and 4 inches of soil, in which can be grown any plants suitable for a case of this size. Most of the earthen Fern cases are not more than 4 inches deep; this depth will answer for those of small size, but it is not sufficient for larger cases. The soil and method of planting recommended for Wardian cases are suitable for ferneries, also the same general treatment will answer for a ventilated Fern case.

A Fern case for winter decoration ought to be filled in August, or not later than the 1st of September. This will give the plants time to get fairly established and make new growth for the winter before the short cold days commence. Cases filled later in the autumn afford very little satisfaction or pleasure, as they rarely get underway or begin to make new growth until spring, if they do not wholly die out during the winter. Were I intending to fill a case for my own use I should certainly plant early.

For the close case I should only use such plants as are suitable. Disturb the shade only when water is required, or signs of mould are visible, or the plants damp off; then give air for a short time each day, wiping out the glass when it is removed. This will generally remedy the trouble when practised a few times. When the plants are in vigorous growth and during the warm weather give considerable water, but withhold it almost entirely during the winter, and give plenty of light at all times.—W. H. HALLIDAY.

## NOTES ON VILLA AND SUBURBAN GARDENING.

**KITCHEN GARDEN.**—The first week in August is the time when I like to sow a good breadth of Spinach for autumn and winter use, sowing again for succession early in September. The first sowing if it does well gives a good supply through the autumn and up to Christmas, while the second crop may be expected to stand the winter well and come to perfection as the days lengthen in spring. Spinach grows as fast in the latter part of summer as it does at any time, and if the soil is deep and good, which it ought to be, the leaves come large and fleshy, and the crop is then abundant.

The present is also a capital time to sow a bed of Cabbage seed for the general crop. The Early York is considered a good sort, but Cattell's Reliance is quite as good. There is, however, a sort about here called the Early Rainham, which is much the earliest of the three, and turns in well. I grew all these sorts this season, and they came in good succession. With regard to planting Cabbages after the Onion crop, which some object to on account of the maggot which the Onions leave behind, I should not advise that being done where the Onions are at all affected; but if they are free from that enemy there need be no fear of the Cabbages not doing well. I like to manure the ground and dig it deeply and work the soil down as much as possible, putting the plants out immediately. The ground from which Peas have been taken will do for Cabbages if the other fails, and, if the Pea ground is not wanted, for late crops of Celery.

I perceive the Potato crop is dying off, and on examination find the tubers are almost ripe. I quite agree with what Mr. Luckhurst says about taking them up. I have my early Potatoes already up, and the others if left in the ground will start into growth again if wet should come on. We have had no rain here for many weeks, and most of the tubers are small. No doubt this will be a season favourable to such sorts as Sutton's Flourball and many other coarse-growing sorts, which will probably prove better in flavour than usual. This "curl" or whatever disease it is, has confined itself to the American Rose, and the haulm has been dead for a long time, and those affected have no tubers larger than walnuts.

Late Celery may still be planted as ground becomes vacant. Probably in such a season as this the latest-planted rows will prove as good as the others, for lately Celery has not grown owing to the excessive heat and drought. If rain comes lose no time in planting Savoy, Broccoli, and Kale of different kinds; also Coleworts and Lettuces should be planted in large quantities, as they are now safe from running to seed. It will be best to sow often, so as to obtain a good stock of plants for the autumn.

Attend to Tomatoes frequently by stopping the young growths and not allowing the plants to grow more fruit than is at present swelling-off, as there will not be time for it to ripen, and it will impair the quality of that which set first. The plants must have manure water frequently, for being grown against walls evaporation is excessive, and the plants being fast growers much water is needed to keep them in a healthy state.

**FRUIT GARDEN.**—Strawberries must now be attended to, both for forcing and new plantations. I make a new bed every third year. I should do so often, but have not the ground to spare. Let the runners that were first layered be taken from the parent plants, and in a few days afterwards be potted into larger pots and placed on a bed of ashes in a convenient place for watering, for they will need copious supplies. Later runners should be cut off when ready, and after the pots are filled with roots they should be planted-out without delay, for the earlier they are planted the stronger the plants become before winter, and the better they may be expected to fruit next year. A piece of ground should be trenched-up for them, and rich manure should be added freely and mixed with the soil. This may be suppl-

mented by surface-dressings and by liquid manure when the plants are established.

Do not neglect the nailing-in of young wood of wall trees, and cut away all those lateral shoots which come from the wood made early in the season. These late growths will not ripen if left, and as a rule such wood is not fruitful. In going over them it is advisable to remove much of the wood not likely to be wanted another season; but do not be too severe on this point, because in spring pruning it is always best to have a choice of wood for fruiting.—T. RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

We are passing through a period of the most unfavourable weather experienced for many years: all the crops are suffering to an alarming extent, and in the course of the next few weeks if no rain falls we shall be almost without vegetables. If we had the means of deluging the crops with water it would not be so, but this cannot be done, and the crops will not live through the drought. Even the fruit trees that have been established for years are drooping for lack of the necessary moisture, but they are not at the same time suffering from an overcrop of fruit. Plums are almost nil; Apples and Pears being few and far between.

Such weather is very favourable for the destruction of weeds, and the hoe should be kept at work wherever practicable; but however well the ground may have been hoed a few weeds will remain—they may be seen, tall strong plants, hardy, and full of ripe or ripening seeds. Amongst Potatoes almost ready to be dug up, or amongst other permanent crops, a boy in a few hours with a basket or wheelbarrow could clear a large garden of such weeds and prevent their seeding, saving much trouble next year. The walks should be kept clear of weeds, and they should, if possible, be swept once a week, and be rolled occasionally.

As Peas and Potatoes are cleared from the ground it is being prepared for hardy Greens, Coleworts, and sprouting Broccoli. The plants look fairly well as yet, and if we have a good shower of rain they will soon start into growth. We shall also prepare ground for the winter Onions by digging it deeply and manuring well. A border of well-trenched and manured ground ought also to be prepared for winter Spinach. It must be sown immediately. Lettuce may also be sown in a shady place, and other small salads as they are required.

### PINES.

There are plenty of strong suckers ready to be potted, and they will be done if possible this week. The fruit has all been cut, and when this is the case the suckers can easily be wrenched out by the hand; the ragged end of the sucker is then cut clean across with a sharp knife. The bottom leaves should be removed, which will show the young roots just starting. Our suckers are large enough to be potted into 7 and 8-inch pots, and these they will well fill with roots by October. The best potting material is turfy loam, more of what is termed clayey loam than sandy loam (we would rather it was too heavy than too light), about one-sixth part of decayed manure, and a 9-inch potful of crushed bones to each barrowload, and if charcoal is at hand a few lumps may be added to each pot. The drainage should be placed carefully in the bottom of the pot, and the compost should also be rammed in quite firmly with a wooden rammer. The tan should be renewed either by having the old material removed altogether, or it should be passed through a sieve, the finer portion to be taken away, and the rough part to be mixed with fresh tan. It will be found that the temperature of the bed after this will rise to 110° or even 120°, but it is not nearly so hot as this a few inches below the surface, and the pots may be plunged to two-thirds of their depth, the brisk bottom heat will cause the roots to form quickly. If the potting material is sufficiently moist at the time of potting it will be better not to water the plants for a few days or even a week if the weather is dull and cold. The succession plants that have been removed to the fruiting house will not be subjected to a higher bottom heat than 90°. Houses where the fruit is ripe and ripening should be aired freely; indeed, the ventilators may be open night and day, and the atmosphere may be kept rather dry.

### ORCHARD HOUSE.

The fruit is now ripening, and this necessitates a much drier atmosphere; and the trees whereon the fruit is ripe, or nearly so must not be syringed at all, nor must the supply to the roots be as abundant as heretofore. It will be seen from this how necessary it is to have the trees quite free from insect pests before the ripening period draws near. It is not possible to syringe at all when the fruit is generally ripe. The first to ripen was the Early Rivers Peach; this and the other early sorts raised at Sawbridgeworth are very useful for their earliness if the quality was good, but this year, although there was a fair crop on the tree, nearly all the fruit had split stones, and none of it was presentable on the table in the dining-room. Others may have

had a different experience; ours has been unfavourable to this sort for the last six or eight years at least. With it ripens the Beurré Giffard Pear. This is by far the best of the early sorts, and though rather later than Doyenné d'Été it is very much superior to it in every respect; it makes a very acceptable addition to the dessert at this early season. Early York Peach will be ripe in a week. This variety is invariably good, and a most free-bearing sort as well; it is generally three weeks later than Early Rivers. Before they are over the Royal George and other midseason sorts come in with Hunt's Tawny and Lord Napier Nectarines. This last-named variety is another of the Sawbridgeworth introductions; it is said to be a sport from Early Alfred Peach. It is a most excellent Nectarine, full size, nearly as early as Hunt's, and far superior to it in flavour. We shall have to discontinue syringing in a week or ten days, but the trees are healthy and free from red spider.

*Figs in pots* that are now bearing ripe fruit require similar treatment to the orchard-house trees. There is no necessity for any artificial heat, and the atmosphere of the house ought to be moderately dry. No syringing of trees is permitted at this time, but it ought to have been well carried out up to the time of the first fruit ripening. Like the Peach the Fig is liable to be attacked by red spider, and if this pest is abundant on the leaves the flavour of the fruit is very much deteriorated. Less water is required at the roots, but the plants must not suffer for want of it. Young plants that are being grown-on should be freely syringed, and the house ought to be closed in the afternoon, syringing the Fig trees at the same time.

### GREENHOUSE AND CONSERVATORY.

The more hardy of the hardwooded greenhouse plants have been turned out of doors, and Azaleas of large size that have now set their buds in the forcing house will be gradually inured to a cooler atmosphere, and will also be placed outside for a short period. The plants must be placed either on a bed of ashes through which no worms can find their way; or, what is better, if the pots are above 18 inches in diameter three bricks should be laid flat on the ground, on which to place the pots. The centre hole is in this way raised 2 inches or more from the ground, and we believe that the air being allowed underneath the pot is good for the health of the plants. The sun ought not to be allowed to shine directly upon the pots; if it does the small rootlets, which are most active and numerous between the sides of the pots and the soil, will most likely be killed. To prevent this some roofing tiles, slates, or boards may be placed against the pots on the sunny side. When the pots are upon bricks they are more easily blown over by the wind than those standing upon the ground; and to prevent this three stout sticks should be driven into the ground round the pot, and to them the pot should be fastened with strong tar string. All plants, including Azaleas, that are subject to the attacks of red spider should be smartly syringed, working the water under the leaves. In hot seasons Camellias become disfigured by red spider attacking the leaves, but this plant delights in frequent syringings; so that if the leaves are browned by red spider it must be attributed to neglect.

### FLOWER GARDEN.

We cannot say much for the beauty of the bedding plants this year. Even zonal Pelargoniums, which flower most freely in hot seasons, have had almost too much of an East Indian temperature; the rich crimson scarlet of Wellington has had the colour bleached, and is true to itself only when the plants are shaded from the noonday sun. Verbenas have had no chance to start into growth, and a favourite bed that is annually planted with Mangles' Variegated Geranium and Purple King Verbena has not yet covered the ground. The Silver Variegated section of Pelargoniums are doing better than any other sort; the proportion of white is larger than usual and is very pure. Asters have not done so well as they ought, considering the care that was taken of them early in the year. Green fly made an attack upon them and the plants were overlooked for a few days, but the pest left its mark upon the plants. They are now clean and growing freely. Roses have flowered very well, and have been very free from insect pests; even the bud worm did not do as much damage as usual to the young shoots. All the flowers are removed when the petals are ready to fall. By going over the plants frequently and picking off these and the seed pods the bushes have a more tidy appearance.

Pipings of Pinks have been put in. We like to do this in wet weather, the best strike is obtained at such a time. This has not been possible this year, but the beds were well watered before the pipings were taken from the plants. They were put into boxes, which were placed in a frame behind a north wall. The best blooms of Carnations and Picotees are over, and we are now busy layering the grass; by the time this is in the printer's hands most of them will be finished. The wind is high, which is not in their favour, as many of them are broken by it; this is owing to the notch in the stem being cut too deep. Auriculas require looking over once a week to remove decaying leaves and green fly. Hollyhocks and Dahlias must be fastened to sticks as they grow. If Dahlia shoots hang loose

they are very easily injured by high winds. Phloxes are now in full bloom, and well do they repay the little attention they have received as to tying them to sticks and watering. The Phlox suffers much if the roots are dry; it requires abundant supplies of water.—J. DOUGLAS.

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LONDON RINK, CAMBERWELL NEW ROAD STATION. August 3rd, 4th, and 5th.

RAWTENSTALL (ROSENDALE). August 4th and 5th. Mr. M. J. Lonsdale, Sec. SOUTHAMPTON. August 5th and 7th. Mr. C. S. Fuidge, 39, York Street, Sec. FINEDON. August 7th. Mr. G. C. Mann, Sec. TAUNTON DEANE. August 10th. Mr. F. H. Woodforde, M.D., and Mr. Clement Smith, Hon. Secs.

FILEY. August 11th. Mr. Walter Fisher, Hon. Sec. OTLEY. August 12th. Mr. Alfred Suttle, Hon. Sec.

CLAY CROSS. August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec. EMSWORTH. August 15th. Mr. H. Moore, Hon. Sec.

WESTON-SUPER-MARE. August 15th and 16th. Mr. W. B. Frampton, Sec. PRESTON. August 16th and 17th. Mr. W. Troughton, Hon. Sec.

SHERWSBURY. August 16th and 17th. Admitt & Naunton, Hon. Secs. LEDBURY. August 17th. Mr. J. B. Masefield, Hon. Sec.

NORTON, NEAR STOCKTON-ON-TEES. August 18th. Mr. C. Turner, Sec. MIFFIELD. August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.

CALNE (WILTS). August 22nd. Mr. H. Blackford, Sec. NEWBURY. August 22nd. Mr. H. Seymour, Hon. Sec.

DORSET COUNTY. August 23rd (at Dorchester). Mr. A. Pope and Mr. C. Parsons, Secs. CHEPSTOW. August 23rd. Mr. R. Thorn, Hon. Sec.

CARSHALTON, WALLINGTON, and BEDDINGTON. August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.

LARGS and FAIRLIE. August 25th. Mr. D. G. Glen, Hon. Sec.

SEATON BUEN. August 26th. Mr. B. Richardson and Mr. W. Elliott, Secs. ISLE OF THANET (MARGATE). August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.

POCKLINGTON. August 31st. Sec., Mr. J. E. Ross.

YARMOUTH. August 31st. Mr. S. Aldred, Hon. Sec.

THORNTON HEATH. September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.

MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec. DUNDEE (International). September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.

GLASGOW. September 12th and 13th. Mr. F. Gibb, Doughall, 167, Canning Street, Sec.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY. September 13th.

KILMARNOCK. September 14th. Mr. M. Smith, 11, King Street, Sec.

IPSWICH. September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Guttridge, 51, Denmark Road, Northampton, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*Agricultural*).—No book gives the synonyms of kitchen garden varieties. Paxton's "Botanical Dictionary" would aid you in other ways.

BOOKS ABOUT GRASSES (*W. E. L.*).—Scheuchzer's "Agrostographia," in Latin; and in English Sinclair's "Hortus Gramineus Woburnensis" and Lawson's "Agrostographia." We cannot name so many specimens.

LILY OF THE VALLEY (*F. S. T.*).—The leaves ought not to be cut off so long as they continue green. Any that become decayed may be picked off.

WILD FLOWERS (*Mrs. Otter*).—The work is not yet completed.

EXHIBITORS' GRIEVANCES (*D. R. & Co.*).—We can only recommend the Royal Botanic Society to be more liberal, for if they are not their shows must be injured.

CARNATION AND PINK SHOWING (*H. E. C.*).—These flowers are rarely ever shown without cards, and if the petals are simply arranged and none added they cannot fairly be disqualified—*i.e.*, provided the pods are not split.

GARDENERS' BENEVOLENT SOCIETY (*A. W.*).—Write to Mr. Cutler, Secretary, Gardeners' Benevolent Society, York Street, Covent Garden, London.

PERPETUAL ROSES FROM CUTTINGS (*Wills*).—Cuttings may now be taken off such shoots as have just shed the flowers, such shoots being in the proper order for propagation, the wood being ripe. The cuttings may have three joints, cutting transversely just below the lowest joint and removing its leaf, the other leaves being left intact. The cuttings may be inserted an inch to 1½ inch in small pots in fibrous loam and sand in equal parts. Two joints will answer for the cuttings, but it is important that the cutting have at least one leaf attached. The pots may be plunged in a hotbed in tan or sawdust, the bottom heat of the bed at the bottom of the pots being 75°. They will need to have the lights of the frame kept perfectly close, and the cuttings sprinkled overhead every morning lightly, and shaded from sun. In about a fortnight they will have rooted, but they must not have air or be removed till shoots are made 1 to 2 inches in length. After this air may be gradually

admitted, the plants by degrees being inured to light and air. They should be moved into larger pots—½ to 5 inches, continuing in the frame until established, but with moderate air only for a time. Afterwards harden well off and plunge outdoors in ashes in an open yet warm situation. The cuttings may, instead of being placed in heat, be placed in a cold frame kept close, shaded, and sprinkled every morning, treating in other respects as before stated. They will root more slowly, but not less surely in the cold frame than in a hotbed.

MELONS CRACKING (*C. R.*).—Cracking arises from the supply of sap being too liberal after the fruit has commenced ripening, and is usually most prevalent when the growth of the fruit has been made under very bright sun, the ripening taking place with too much moisture in the atmosphere. Kinds liable to crack—most of those with hard rinds and much netted—we usually cut the vine carrying the fruit about halfway through when the fruit is full-sized, and increase the cut in a few days to three parts the thickness of the stem, keeping the soil and atmosphere dry. The scarlet-fleshed kinds as a rule are more liable to crack than the green-fleshed or white-fleshed, but with proper moisture during the swelling of the fruit, and dryness when ripening, cracking does not occur in any.

LETUCES RUNNING (*F. W.*).—Your Lettuces run because their sowings are made too distantly, the plants being sown too thickly, or left to grow too long before thinning, with the soil dry and loose. We sow every fortnight or three weeks from the first week in April to the first week in August where the plants are to remain, the ground being well manured and trod firm as for Onion beds before sowing, and sow in drills a foot apart, and thin out the plants to a foot distance in the rows, and early before the plants are drawn. We never water, and never fail of "big" heads—Cabbages they are termed—from these sowings from June to November inclusive—after December if the weather be mild. Though we grow half a dozen or more sorts, dependance is placed upon Paris White Cos—that fine selection of it known as Alexandra Cos, and Neapolitan Cabbage, the two best summer Lettuces in cultivation. All the Year Round is much esteemed in the kitchen, but is too soft in hot weather for the salad bowl.

STOPPING TOMATOES (*Alex. Boyle*).—You are quite right in your ideas as to stopping—*i.e.*, if you have two or three bunches of fruit showing upon a shoot stop it at or one joint beyond the uppermost show of fruit, taking out the point of the shoot immediately the growing point is clear of the joint having the fruit. The side shoots we should stop immediately you can beyond the first truss of fruit. We prefer to go a joint past rather than stop at the same joint as that the fruit is situated at, and with these it is likely you will have as much fruit as will ripen; nevertheless keep on stopping beyond each show of fruit—preventing overcropping, much being done in that way by removal of the old useless leaves.

APHELEXIS DYING (*Amateur*).—The watering "with a mixture of cow dung and soot cleared with lime" is sufficient to account for the death of the plants. You will not find any such instructions in our "Greenhouse Manual." Avoid lime for all plants requiring peat soil, and as a rule liquid manure for most hardwooded plants. The plants appear to have been too liberally watered for recently-potted plants. We do not know a book treating of New Holland plants. Sufficient instructions are given in the "Greenhouse Manual," which we must remind you has not been followed, but deviated from with disastrous results.

SALISBURY ADIANTIFOLIA PROPAGATION (*S. M. W.*).—Layering is the most certain mode, it being done in autumn or spring, the layers not unfrequently requiring two years to root, but if kept moist they will root the first year. Cuttings of the well-ripened shoots with a heel of last year's wood inserted under a hand-lift in a sheltered situation in September.

PHLOXES FRUTICOSA PROPAGATION (*O. W. D.*).—It is a low-growing shrubby plant, requiring a warm situation and a well-drained soil, and moderately rich. Cuttings or slips inserted now in a shady border, or better under a hand-glass, shading from bright sun; seeds, which you may save, sown in early April in a warm border in light sandy soil. The plants from seed are best, though those from cuttings flower earlier.

CUCUMBERS SWELLING IRREGULARLY (*Subscriber since 1856*).—The plants are affected with gangrene, a result usually of the roots being in too rich soil, too wet, and cold. A little increase of bottom heat would induce more regular swelling, affording moderate moisture, too much probably arising from the tank, making the soil sour. A brisker heat with freer ventilation should give you healthier growth, and with that you will have better-swelled fruit.

CYTISUS, CALLA, AND DOUBLE PRIMULA CULTURE (*Lancastrian*).—The Cytisus we should at once shift into a pot that will admit of an inch of fresh soil all around; the plants being turned out of the pot, remove the old drainage and loosen the sides of the ball with a pointed piece of wood, potting rather firmly, and keeping the collar of the plant slightly raised in the centre of the pot, employing a compost of three parts fibrous loam, one part leaf soil, and a free admixture—about a sixth—of sand, providing good drainage. *Richardia* (*Calla*) *ethiopica* we should now repot, removing most of the soil from the roots; in fact, all coming away freely should be removed, and the plant returned to the same size of pot, or one that will hold the roots and admit of fresh soil amongst and around them, potting moderately firm, using turfy loam, with a fourth of dry cow dung or well-decayed manure added. Place outdoors on ashes and keep moist, and by the close of August fresh growth will appear, removing to a light airy position in the greenhouse at the close of September, and in early October shift into a pot 4 inches larger in diameter, keeping duly supplied with water, and in spring water liberally. The double *Primulas* should be kept in the greenhouse or in a pit or frame rather dry until the early part of this month, when they should be repotted, loosening the sides of the ball a little, and shifting into a slightly larger size of pot. A compost of fibrous loam and sandy peat in equal parts, with a fourth of leaf soil and a half part each of silver sand and pieces of charcoal, well mixed and moderately firmed in potting, providing good drainage. Water carefully, especially during winter.

ZONAL PELARGONIUMS FOR EXHIBITION (*Zonal*).—As there are two classes in the schedule—one for zonal *Pelargoniums* and the other for the section named "nosegay," it would be wrong to show the ordinary or florists' type in the nosegay class; the collection would most likely be disqualified. Any variety with a plain leaf would be distinguished by its flower: if it had a nosegay flower it would be exhibited in that class, and *vice versa*. It cannot be the desire of the committee to exclude plain-leaved sorts from the zonal class. As to distinguishing an ordinary florist variety from a nosegay, they have been so intermixed that it is difficult to say where the one leaves off and the other begins. *Stella*, *Cybister*, *Lord Palmerston*, *Amy Hogg*, and all the varieties with large trusses and narrow petals are the true nosegays. Well-

ton, sent out by Mr. W. Paul, is a cross between a nosegay and a florist variety; it has the large truss of the nosegay, and ought to be eligible for that class.

**WINTERING MESEMBRYANTHEMUM CORDIFOLIUM (Franklin).**—You may winter it quite safely in a greenhouse from which frost is excluded, only do not water more than to keep from flagging. The Coleus you would lose from cold and damp, it requiring a temperature of 50° to winter safely.

**IRIS SUSIANA AND I. IBERICA CULTURE (Idem).**—Place them outdoors, or better plunge in ashes in an open situation, and they will not require further attention until late in September, when they may be removed to a cold pit, and be kept rather dry there or in a cool part of the greenhouse until spring, when they should have water as the growth advances and proportionate thereto. Repot in early spring, adding a third of peat to the loam, with a free admixture of sand.

**GREEN SPOT FROM MANGLES' VARIEGATED GERANIUM (Mars).**—This is not unusual; we counted three green spots on one bed after receiving your letter. *Clorodendron Balfourii* ripening seeds is also a common occurrence.

**MANURING STRAWBERRY BEDS (A Subscriber).**—This may be done in November, or any time through the winter. The manure ought to be applied before the plants start in the spring.

**GRAPES MILDEWED (Tyro).**—We have had to do with vineries of all sorts for many years, and have had the Vines attacked by mildew, but never to the extent of requiring the bunches to be powdered with flowers of sulphur to destroy the mildew. On the first appearance of the parasite you should coat the hot-water pipes with sulphur worked into a paste. Apply it with a painter's brush. The pipes should be made so hot that the hand can just be held on them. Any seedsman can supply you with an appliance for dusting the sulphur amongst the berries. If yours are very bad it may be necessary to do this.

**MORELLO CHERRY ON CLAY SOIL (H. T. Z.).**—We find that this Cherry succeeds better on a light soil or medium than on a heavy clay. You should try working some leaf soil, sand, or road scrapings amongst your clay soil.

**CULTURE OF POMEGRANATES IN POTS (M. E. T.).**—First, the soil should be turfy loam with leaf mould and a little rotted manure. Second, repot in November or December. If the plants are small, once a year; if large, every second year. Third, the points of the young wood ought to be cut-back in winter, and the temperature should be very low. It is not safe to place the trees out of doors before the danger from frosts or cutting winds are over in the spring; the young shoots are easily injured.

**LEAVES OF PEACH TREE DROPPING (E. S.).**—It is difficult to say what may be the reason of this. A quantity of soft-soapy water would injure the roots, and Noblesse would suffer either from this or drought before Barrington. We rather think it must be the drought. Water well and mulch with manure. If drought is the cause of the injury many of the small roots will be dead, and the tree will not recover all at once.

**THRIPS ON VINES (W. Hay).**—We were much troubled with this pest in our vineries some years ago, and could only destroy the insects by fumigating with tobacco smoke, but this caused the fruit to taste slightly of tobacco. In the autumn the Vines should be well washed with a strong solution of soapy water, tobacco liquor, and flowers of sulphur after removing all the loose bark.

**HARDY SUCCULENT PLANTS FOR EDGINGS (S. J. P.).**—*Sempervivum californicum* planted 6 inches apart, and the interspaces planted with *Sedum glaucum*, forms a chaste, beautiful, and permanent edging for flower beds, both plants being perfectly hardy.

**EARLY PEAS (F. W. L.).**—If you procure Carter's First Crop true to name you will find it earlier, also dwarfier, than Sangster's No. 1. Both are useful early Peas. If you add to them William I. and Alpha you will have Peas both early and of good quality.

**AMERICAN BLACKBERRY PLANTS (H. C.).**—Write to a nurseryman at New York.

**SEEDLING GERANIUMS (Amateur Gardener).**—They are not in any respect equal to many others.

**CUCUMBERS DISEASED (G. M. M.).**—Judging by the fruits sent your plants must be in a deplorable state. If there are ulcerations and exudations of sap from the stems you have the "Cucumber disease" which you will not be able to cure this season, but you may, perhaps, prevent it the next. If, on the other hand, the fruits only are affected, the stems not being ulcerated, the injury arises from insufficient temperature and perhaps a cold and stagnant soil. Cut off all the affected fruits, all bad leaves and weak growths, and remove carefully a portion of the soil, adding fresh; increase the temperature of the soil and atmosphere, and with careful waterings with tepid water, and judicious ventilation your plants may start into fresh growth and produce clean fruits. The minimum night temperature should not be lower than 65°, but 70° would be preferable for a time to assist the plants to make fresh growth quickly.

**BLECHNUM, &c. (G. M.).**—Not knowing where or in what soil the plants are grown we cannot advise you, nor can we name a Fern from a scrap of a frond.

**SULPHUR ON GRAPES (J. E.).**—As it has effected its purpose and the berries are green you may syringe it off.

**CULTURE OF CHILIES (J. N.).**—The seeds, which may be kept in their ripe cases until wanted, should be sown under glass towards the end of March in a very rich soil, and if in a hotbed all the better. As soon as the plants are 4 inches high they should be pricked-off, either singly in small pots or four in a 5-inch pot, and well watered, syringed, and smoked to destroy the green fly, and shifted again if necessary until the first or second week in June, when the plants may be turned out into nice mellow soil in front of a south wall, in front of forcing houses, or on a south border, when a good quantity of green fruit will be obtained in September and October. If by the middle of September they should not have produced ripe fruit enough take them up with a ball of earth, repot them, shade them in a frame, pit, or hot-house of any kind for a few days, and keep them under glass. They will hardly feel the moving, and will produce abundance of either green or ripe fruit, whichever may be most required for use, all winter and next spring.

**NAMES OF FERNS—CYRTOMIUM FALCATUM (B. H. H.).**—No. 1, *Lastrea Filix-mas*; 2, *Adiantum trapeziforme*; 3, *Lastrea acuminata*. *Cyrtomium (Aspidium) falcatum* is hardy in warm localities and sheltered situations, but is more generally desirable for greenhouse. In cold localities it is not hardy. It is a native of China and Japan.

**SOOT WATER FOR VINES (D. P. B.).**—About thirty gallons of water to each

peck of soot will be the right quantity. It is best to place the water in the tub and suspend the soot in it in a coarse bag for a few days. You will then obtain a clear solution of sufficient strength for your purpose.

**NAMES OF FRUITS (R. L.).**—Your Pear is *Doyenné d'Été*, or Summer Doyenné.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### POULTRY AND BEE NEWS AND QUERIES.

We have been often asked for reliable information about the success of eggs sent to and from America for hatching purposes. We are able to reply fully to the query, and will give particulars of a package coming from and going to America. In the latter part of April Mr. Norwood of Salisbury sent Mr. G. Brown of Brooklandville, U.S.A., twenty-six White-crested Black Poland eggs. They were packed in a substantially made box of inch deal, and the package measured 12 inches each way. The eggs were packed in dried peashells and bran, and out of the twenty-six eggs twelve strong chickens hatched out, two more having died in the shells; the other twelve eggs were clear. On June 3rd Mr. Norwood received from Mr. Brown thirty-one White Leghorn eggs. They came to him packed in the same box as he had used in sending the eggs to Mr. Brown. The cost of the package from Brooklandville to Salisbury station was 14s. 2d. The eggs hatched in twenty days, and from them there were twelve chickens hatched alive, seven died in the shells, three eggs met with accidents, and nine were clear. We have heard of better hatches from American eggs and from English eggs sent to America, and we have known of many less successful ventures.

The Portsmouth Poultry Show was held on June 21st and two following days—very nearly six weeks ago, and we read in the schedule in large type that "all prizes will be paid within fourteen days from the close of the Show." We know of prizes which up to now (July 31st) have not been paid. It is also stated in the schedule that successful exhibitors could on application at the office receive their prize money on any day of the Show. We heard one well-known exhibitor apply for his money, and he was told by the Secretary that the Committee had not furnished him with any funds wherewith to pay such prize money. We know these facts have been freely commented on, and we fear the Ornithological and Zoological Society of Portsmouth will gain no advantage from the discussion.

Among the schedules which come to us is one from Weymouth. In many ways it is good; but we think here, as too at Rochdale, the difference in the value in the first and second prizes—30s. and 10s.—quite ridiculous. If only 40s. could be afforded for the two prizes, 25s. and 15s. would have made a much better proportion. At Weymouth, too, there is no Variety class, while French have three classes, one being for Houdans, one for Crêves, and the other for any other variety of French. They may get a brace of pens of La Flèche, but we should imagine it was very doubtful. As we have before stated, we cannot afford space to criticise every schedule, and so only from time to time are able to pick out the salient points in any Society's prospectus. Bath has issued a capital schedule, and the neglected breeds can here have a merry time, for there are classes for Malays, Minorcas, Leghorns White and Leghorns Brown, Silkies, and Black East Indian Ducks. We regret that Bath and Southport should clash, for the latter's prize list is very good. In it we see Dorkings have seven classes, Cochins eight, Hamburgs ten, while all breeds seem handsomely provided for.

We fear there is still the disposition among many committees not to publish the names of the judges at their shows. Our own views are well known on the subject, so we need not return to them. We would only again beg committees and secretaries to understand that if once a judge is mean enough to co-operate with any exhibitor, that judge is just as able to write and tell his colleague that he is judging at any show, when the said friend would of course enter, while the entries are lost of those exhibitors who will not enter unless they know the judge's name and capabilities. Under this latter head, however, there is frequently some favoritism shown by secretaries, for at a show held in June last we know of one poultry exhibitor who said he would enter largely if the judge's name was revealed; this was done to him in confidence, while several others who were smaller exhibitors had the intelligence refused to them. We ask if this is more satisfactory a line of proceeding than publishing the judge's name, when all fanciers would be able to stand the same chance.

At several recent poultry shows held in consecutive order all the prizes in Poland were taken by the White-crested variety, and this with capital specimens of the other colours in the classes. This would seem as if the breed was becoming much more cultivated; and it being one of the most beautiful breeds we have we are glad of it, and would recommend energetic



committees to give these birds more classes and so push them still further.—W.

### BRAMLEY SHOW OF POULTRY, &c.

THE annual Show of this thriving Society was held on the 24th and 25th ult., when the weather presented quite a contrast to that of last year, when the show field was like a bog and everything half drowned, and which caused a great loss to the Society. A capital marquee was provided for the poultry, &c., and this proved a welcome protection from the scorching sun. Turner's pens were used, and were well arranged for seeing. Poultry were a little smaller show, Pigeons large, Rabbits the very best held by this or any other society for the amount offered, but Cage Birds a failure in numbers.

*Spanish* were a good class, and *Cochins* a fair lot; but the best pen in these varieties was the first-prize *Brahmas*, but only the winners in *Polish*, *Game*, and *Hamburghs* were good in these classes. *Bantams* had well-filled classes, the first in *Game* Black Reds, and second *Brown Red* chickens. Two classes of chickens were provided; the best in these were the first-prize *Brown Red Game Bantams*.

In *Pigeons* the competition was very keen, Messrs. Baker, Harvey, and Yardley being among the competitors. Carriers a grand class. First the well-known *Palace Black* cock; second, a capital *Black*; and third a promising young bird not made-up. Pouters, a charming *Blue* hen first; second a *Black*, faintly only in colour, but in grand show; and third a *Blue* cock not quite in condition. Trumpeters mostly Mottles and very good. Tumblers all noticed, and a splendid lot. First an *Almond* cock of high quality of head and thoroughly broken in feather; second a *Kite*; and third an *Agate*. Barbs very good and all *Black*. In *English Owls* five of the best were left out, the exhibitor's man not having removed the zinc labels from their feet. First a grand *Blue*; second *Blue*; third *Silver*. A large and good class. *Dragoons* a good class, the winners stood well out, first *Blue*; second *Silver*; and third *Red*, an exquisite bird but out of feather. *Jacobins*, winners *Red* and all of high quality. *Fantails* a nice lot. In *Turbits*, first a sound-coloured *Blue*, second *Yellow*, a little coarse; and third *Silver*, which was a little too Owl-like in head. Common Tumblers, *Bald* or *Beard*, very good, first *Black*; second *Blue* *Bald*; and third *Yellow* *Beard*. Any other Tumbler, not so good. In *Magpie* or *Swallow* the former won all the prizes. A *White* foreign Owl of grand head properties was first in the variety class, second a *Blondinette*, and third an *Ice*. *Antwerps* were a very good entry, and some strong likely birds put in an appearance. In *Short-faces* the winners were all *Silver* Duns, and in *Long* first and second were *Red Chequers*. Among the *Medium-faced* birds were some grand birds, the first a *Silver* Dun being very handsome, the second a *Silver*, the third *Blue Chequer*. Two classes were provided for hens—viz., one for *Short*, the other for any other variety, and in the former first was a *Short-faced*, a splendid bird; second a *Blue Chequer*, a little lost in beak; third a *Red*. The *Flying* classes and *Selling* classes were large, but of little note except the winner.

*Rabbits* had 125 entries in nine classes, and these were well bedded and cared for. The Judge's name had been advertised, a point we have contended for for a dozen years at least, and yet this seems to have been no safeguard against the libellous conduct of a certain clique, some of these gentlemen carrying their virulence so far as to attempt a stab in the dark by writing privately to the Secretary of the Show, while another exhibitor sent to the Judge a few days before the Show a basket of edibles, which were turned over to the Secretary for the use of the Committee, who no doubt enjoyed it immensely. In *Self-coloured* Lops, first was a large, good-styled *Sooty-fawn* buck rather out of down, second a *Fawn* buck not so good in leg, and third a nice *Fawn* doe. *Broken-coloured*, first a *Black-and-white* doe, this winning the extra also; second an exceeding nice *Fawn-and-white*, third a *Black-and-white*, but not so good in colour. These were judged for all properties and not for the length of ear alone. *Silver-Greys* were a capital class of seventeen entries, and the competition was very close. First and extra a large young buck very sharp in silvering but slightly dark on nose; second an equally large doe but overfed and some down off the back through accident, but in other respects the best; and third a very promising young one, several very highly commended being almost as good. *Himalayans* very poor except the winners, and these were properly placed, although the second-prize winner states in his report in a contemporary that he should have been first. *Angora* a grand class, but not one of the largest *Rabbits*, has much wool on the back though very good in other respects. First was a young one excessively long and fine in wool, small in ear, and neat in all points; second equally good, and the same class of *Rabbit* a little matted on the side; third large but thin of wool on the back. The extra was awarded here. *Dutch* a moderate lot, first a *Grey* very even but too little marking on face; second *Black*, little short of first; and third *Blue*, but rather uneven on one hind foot; highly commended *Grey*, young and good but a little uneven on

hind feet. *Belgians* a grand class, first a perfect one; second a doe as good but somewhat dappled; and third very similar. In the variety class first and extra was awarded to a *Silver Cream*, a most perfect *Rabbit*; second a *Patagonian*; and third a *Silver Cream*. The *Selling* class contained some good Lops and *Silver-Greys*, first a *Black Lop*, second a *Fawn-and-white*, third a *Silver-Grey*.

### SALTAIRE POULTRY SHOW.

THE first Show was held at Saltaire on Saturday last. For a few plants and flowers a large marquee was provided; but all live stock had to be shown in the open, and the wind being strong and cold in the early part of the day, the birds seemed to suffer very much, while room could have been found for the whole in the tent along with the flowers.

*Poultry* though very good were not numerous, Mr. Beldon carrying off most of the prizes.

*Pigeons* were a large lot, and among them some good birds. Pouters seemed to be judged mostly by measurement; the first *Blue*, and second *White*. Carriers a fair lot; first and cup for the best pen was a mistake, the second were better; the cock in first pen too broad in skull. *Dragoons* good, and all *Blues*. Tumblers, first *Almonds*, which might have had the cup as the best pen. *Turbits* very good and well placed; but in *English Owls* we preferred the *Silvers* in the second pen. *Antwerps* were well provided for, there being eight classes, in fact this may fairly be called an Antwerp show, and the birds were very good and mostly well placed. In the Variety class first were *Black Barbs*, and second *Frillbacks*.

POULTRY.—GAME.—1, J. W. Thornton. 2, H. Beldon. *Duckwings*.—1, H. Beldon. 2, J. W. Thornton. SPANISH.—1, J. Thresh. 2, J. Powell. COCHINS.—1, H. Beldon. 2, C. Carr. BRAHMA POOTRAS.—1, H. Beldon. POLANDS.—1 and 2, H. Beldon. HAMBURGS.—*Gold-spangled*.—1 and 2, H. Beldon. *Silver-spangled*.—1 and 2, H. Beldon. Any other variety.—1, H. Beldon. 2, J. Preston. BANTAMS.—*Grey*.—1 and 2, J. Preston. *Black*.—1, H. Beldon. 2, C. & J. Illingworth. DUCKS.—1 and 2, J. Newton. SELLING CLASS.—1, J. Heaton. 2, H. Beldon.

PIGEONS.—POUTERS.—1, W. Harvey. 2, J. E. Crofts. CARRIERS.—1, J. W. Sykes. 2, W. Harvey. DRAGONS.—1, W. Ward. 2, V. Ratcliffe. TUMBLERS.—1, W. Harvey. 2, W. Ellis. TURBITS.—1, B. Rawnsley. 2, T. Foster. OWLS.—*English*.—1, J. Thresh. 2, W. Ward. ANTWERPS.—*Short-faced*.—Cock.—1, W. Ellis. 2, B. Rawnsley. Hen.—1, W. Ellis. 2, T. Foster. *Long-faced*.—Cock.—1 and 2, W. Ellis. Hen.—1, W. Ellis. 2, B. Rawnsley. *Medium-faced*.—Cock.—1 and 2, W. Ellis. Hen.—1 and 2, W. Ellis. *Homing*.—Cock.—1, B. Rawnsley. 2, W. Ward. Hen.—1, B. Rawnsley. 2, W. Ellis. ANY OTHER VARIETY.—1, W. Ellis. 2, J. W. Holloway. SELLING CLASS.—1, W. Ellis. 2, J. E. Crofts.

The Judges were Messrs. J. Dixon and W. Lund.

### TONG AND DUDLEY HILL SHOW OF POULTRY, &c.

THIS Show, though well managed in most respects, does not seem to make the headway that might be expected, the entries in poultry being very sparse, though some good birds were exhibited.

*Pigeons* were more numerous, and some were moderate classes. The *English Owls* were a grand lot, and several extras were awarded, and the *Antwerps* were very good.

POULTRY.—SPANISH.—1, J. Powell. 2, H. Beldon. COCHIN-CHINA.—1, W. Mitchell. 2, H. Beldon. GAME.—*Black-breasted* or other *Red*.—1, H. C. Mason. 2, R. Hemingway. *Duckwinged* or other *Grey* or *Blue*.—1, H. C. Mason. *Black*, *Brassy-winged*, or *Pile*.—1, H. C. Mason. 2, R. Walker. HAMBURGS.—*Golden-spangled*.—1 and 2, H. Beldon. *Silver-spangled*.—1 and 2, H. Beldon. *Golden-spangled*.—1 and 2, H. Beldon. *Silver-pencilled*.—1 and 2, H. Beldon. POLISH.—1 and 2, H. Beldon. BRAHMA POOTRA.—1 and 2, W. Scholefield. BANTAMS.—*Game*.—1 and 2, G. Noble. Any other variety.—1 and 2, H. Beldon. Extra 2, C. & J. Illingworth. ANY BREED.—Cock.—1, J. Powell. 2, H. Beldon. Hen.—1, H. Beldon. 2, W. Firth. GEES.—1, H. Beldon. 2, J. Ward. DUCKS.—*Rouen*.—1, J. R. Pollard. 2, J. Ward. Any other variety.—1, J. R. Pollard. 2, J. Borth.

PIGEONS.—CARRIER.—Cock or Hen.—1, W. Harvey. 2, J. K. Sager. TURBITS.—Cock or Hen.—1 and 2, J. Rawnsley. TUMBLERS.—Cock or Hen.—1 and 2, W. Harvey. JACOBINS.—Cock or Hen.—1, W. Harvey. 2, T. Hoit. FANTAILS.—Cock or Hen.—1 and 2, J. Walker. CROPPER or POUTER.—1, W. Harvey. 2, J. Rawnsley. ANTWERPS.—Cock or Hen.—1, J. Holden. 2, J. Cockett. NUNS.—Cock or Hen.—1 and 2, J. Rawnsley. OWLS.—*English*.—1 and 2, J. Thresh. 2, Helliwell & Ingham. Extra 2, J. Holden. ANY OTHER VARIETY.—1, Helliwell & Ingham. 2, J. Thresh. Found & Chappel. W. Harvey. DRAGONS.—Cock or Hen.—1, J. E. Crossley. 2, J. Rawnsley.

RABBIT.—SPANISH.—*Buck* or *Doe*.—1, A. Hawley. 2, Found & Chappel. COMMON.—*Buck* or *Doe*.—1, Seafie & Pinder. 2, J. Atkinson. ANY OTHER VARIETY.—1, S. Ball. 2, Mrs. R. Murgatroyd, Found & Chappel.

JUDGE.—Mr. Cannan, Bradford.

### HUNTINGDONSHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS was held at Ramsey on the 26th ult., when the following prizes were awarded.

PIGEONS.—DORKINGS.—*Donation*, Cup, and 1, F. Parlett. 2, Mrs. Wood. *Chickens*.—1, T. Bryden. 2, C. Turner. Hens.—*Prize*, Mrs. Wood. BRAHMAS.—*Dark*.—1, Horace Lingwood. 2, J. Long. *Light*.—Cup and 1, M. Leno. 2, Mrs. Peck. *Cock*.—1, Horace Lingwood. COCHIN-CHINA.—*Cinnamon* or *Buff*.—2, J. Long. Any variety.—Cup and 1, R. P. Percival. 2, Dr. Snell. GAME.—*Black-breasted* or other *Reds*.—Cup and 1, S. Matthews. 2, Deacon. Any other variety.—1, H. E. Martin. 2, S. Matthew. Any variety.—Cock.—2, Deacon. HAMBURGS.—*Golden-spangled*.—1, J. Long. 2, S. W. Hallam. *Silver-spangled*.—Cup and 1, J. Long. 2, S. W. Hallam. *Golden-pencilled*.—1, W. W. Tickner. 2, J. Long. *White*.—S. W. Hallam. GAME BANTAMS.—*Black-breasted* or other *Reds*.—1, T. C. Davis. BANTAMS.—Any other variety.—1, M. Leno.

SPANISH.—1, S. W. Hallam. ANY OTHER VARIETY.—1, J. Long. 2, G. W. Boothby. BARNDORF OR CROSSBRED.—*Chickadee*.—1, T. Gunnell. W. Collett. SELLING CLASS.—1, Mrs. Peet. 2, T. Gunnell. DUCKS.—*Aylesbury*.—Donation, Cup, and 1, T. Sear. 2, E. Macey. *Rouen*.—1, Elliston. 2, Mrs. Wood. ANY OTHER VARIETY.—1, Leno. 2, A. & W. H. Silvester. TURKEYS.—Donation and Cup, Mrs. Mayhew. 2, T. Gunnell. GESE.—Donation and Cup.—Deacon. 2.—*Kingsley*.  
PIGEONS.—CARRIERS.—Donation, Cup, 1, and 2, J. Baker. POUTERS.—1, J. Baker. 2, A. A. Thornton. TUMBLED.—1, and 2, J. Baker. FANTAILS.—1, J. F. Loversidge. 2, J. Kendall. ANTWERPS.—1, H. Yardley. 2, J. Kendall. ANY OTHER BREED.—1, J. Baker. 2, E. A. Thornton.

JUDGE.—Mr. Tegetmeier.

BLACKBURN SHOW OF POULTRY. &c.

THIS Show was held on the 27th ult., and was in all respects a success. Poultry were in the open field in excellent pens. The entries numbered near three hundred, and most of the eminent exhibitors were represented.

*Dorkings* not numerous, but very good. In *Brahma* cocks only the winners were noticeable; but these were in good order. *Brahma* hens were failing very much in feather, but otherwise good. *Spanish*, only one cock put in appearance, but in hens were five very good birds. *Game* cocks, first a good old Brown Red, and second and third chickens of the same colour. In *Game* hens were three grand Brown Reds, although the second was rather wild. *Cochins* good in both classes, the cocks especially so, and in very good feather; first and third Partridge, and second Buff. The first Gold-pencil cock was a gem, second and third also good birds. Hens were faded and not in high order. In Gold-spangled cocks were some almost perfect birds, but the hens were particularly good, the first and second in the best possible bloom. Silver-pencils only fine, but all noticed. Silver-spangles were not in as good order as other *Hamburgs* except the first-prize cock. Black *Hamburgs* good in all respects and in large numbers. The first in *Game Bantam* cocks was a well-known Black Red, second a Brown Red cockerel, and third a Black Red. Hens, first and third Black Reds, and second Pile. In the Variety of Bantam of both classes almost all were noticed, the winners mostly Blacks and Whites. *Houdans* were but poor in both classes, as is the case at most shows at present, but the other French fowls were better, and the prizes divided between La Flèche and Crève. Several classes were provided for local competition, and some of these brought out some good birds. The Variety class in *Ducks* proved a very first-rate one, and every pen was noticed.

*Pigeons* were also a good show, the classes being numerous, with three prizes in each, but only two Pouters turned up in the two classes. In Carriers the first-prize Dun was prominent, and was a grand hen. Almond Tumblers first a capital hen, second cock, third too dark. Foreign Owls a good class; pen 912 particular good Blue, best in class but not noticed. Barbs, first Red cock, good, but in poor order. Hens, first Dun, second Yellow, third Red, all good. Four classes for Dragoons brought a heavy entry, and in these were some capital birds of all styles and shapes. Antwerps a heavy entry, most of the best Lancashire and Yorkshire birds competing.

POULTRY.—DORINGS.—*Cock*.—1, J. Walker. 2, J. Stott. *Hen*.—1, J. Stott. 2, J. Walker. 3, T. Knowles. *COCKS*.—*Cock*.—C. Holt. 2, J. F. Smith. 3, J. Faworth. *Hen*.—1, G. Maples. 2, C. Holt. 3, J. F. Smith. *SPANISH*.—*Cock*.—1, T. W. Finch. *Hen*.—1, H. Beldon. 2, J. Smalley. *COCKS*.—*Cock*.—*phc*. T. W. Finch. *GAME*.—*Cock*.—1, C. W. Brierley. 2, W. H. Fenwick. 3, C. Smith. *Hen*.—1 and 2, C. W. Brierley. 3, K. Thornton, jun. *COCHIN-CHINA*.—*Cock*.—1, T. Aspden. 2, C. Holt. 3, T. Beardsworth. *Hen*.—1, T. Aspden. 2, T. Aspden. 3 and *phc*. J. Koyie. *HAMBURGHS*.—*Golden-pencilled*.—*Cock*.—C. W. Duckworth. 2, H. Beldon. 3, H. Pickles. *Hen*.—1, J. Patrick. 2, H. Beldon. 3, W. Driver. *Silver-spangled*.—*Cock*.—1, J. Patrick. 2, H. Beldon. 2 and 3, G. J. Duckworth. *Hen*.—G. J. Duckworth. 2, T. Dean. 3, W. Driver. *Silver-pencilled*.—*Cock*.—1, H. Beldon. 2, J. Ashworth. 3, H. Pickles. *Hen*.—1, H. Beldon. 2, H. Pickles. *Silver-spangled*.—*Cock*.—1, H. Beldon. 2, J. Ashworth. 3, H. Pickles. *Hen*.—1, H. Beldon. 2, Ashton & Booth. 3, J. Smalley. *Black*.—*Cock*.—1, H. Beldon. 2, J. Ashworth. 3, J. F. Moore. 2, J. Patrick. 3, J. T. Simpson. *BANTAMS*.—*Game*.—*Cock*.—*phc*. W. F. Entwistle. 2, W. F. Entwistle. 3, A. Smith. *phc*. W. Baskerville. *Hen*.—1, W. F. Entwistle. 2, J. Barker. 3, A. Smith. *Except Game*.—*Cock*.—1 and 2, E. Walton. 3, H. B. Smith. *phc*. S. Clapham. *Hen*.—1, E. Walton. 2, T. F. Phelps. 3, R. Hargreaves. *phc*. J. Partington. *POLANDS*.—*Cock*.—1, H. Beldon. 2, C. M. Saunders. 3, H. A. Clark. *Hen*.—1, H. Beldon. 2, C. M. Saunders. 3, H. A. Clark. *Houdans*.—*Cock*.—1, S. W. Thomsen. 2, Scott. 3, A. Ogden. *Varieties*.—*Cock*.—1, G. W. Hibbert. 2, J. E. Clayton. 3, S. W. Thomsen. *Hen*.—1, G. W. Hibbert. 2, J. E. Clayton. 3, S. W. Thomsen. *SALES*.—*phc*. C. M. Saunders. 2, J. Rockwell. 3, J. Walton. 3, C. M. Saunders. *SELLING CLASS*.—1, W. H. Benwick. 2, J. Walton. 3, J. Smalley. *phc*. J. Stoddard. *GESE*.—1, J. Walker. 2, J. Houker. *Ducks*.—*Aylesbury*.—1, J. Walker. 2, C. Holt. 3, Mellor Brook Poultry Farming Company. *Rouen*.—1, J. Walker. 2, P. Unsworth. 3, C. Holt. *any other*.—1, J. Walker. 2 and 3, J. Booth. *phc*. H. B. Smith. *TURKEYS*.—1, F. Johnston. 2, F. Houker. 3, T. Knowles. *EXTRA STOCK*.—1 and 2, T. S. Ainsworth.

OPEN TO THE SOCIETY'S DISTRICT ONLY.—GAME.—1 and 2, J. Woods. COCHIN-CHINA.—1, T. Beardsworth. 3, T. Pomfret. HAMEBURGH.—1 and 2, J. Patrick. 3, G. Barnes. *vhc*, G. & J. Duckworth. BANTAMS.—1 and 3, T. Cropper. 2, M. A. Fowler. *hc*, G. Anderton. ANY OTHER VARIETY.—1, J. Smalley. 2, H. Worsley. 3, R. Spencer. BRAHMA POOTRA.—1, G. & J. Duckworth. 2, R. Hargreaves.

**PIGEONS.** CARRIERS.—*Cock*.—1, J. Walker. 2 and 3, J. Chadwick. *Hen*.—1, J. Gardner. 2, J. Walker. T. Charley. *Young*.—1, J. Bamford. 2 and 3, J. Calcott. **POULTERS.** *Cock*.—1, A. P. Byford. *Hen*.—1, A. P. Byford. **TUMBLERS.**—1, H. Hardyley. 2, T. W. Thorneley. 3, J. Royle. **BALDS OR BEARDS.**—1, H. Hardyley. 2, T. W. Thorneley. 3, J. Royle. **BARBS.** *Cock*.—1, Waddington & Booth. 2, S. Dyson. 3, J. S. Collier. *Hen*.—1, J. Walker. 2, J. Wood. 3, H. Yardley. **GRYER, DRAGON, BLUE OR SILVER.**—1, Waddington & Booth. 2, R. Woods. 3, R. Woods. **RED OR BROWN.**—1, J. and S. K. Woods. *Any other colour*.—1 and 2, R. Woods. 3, A. McKnight.

*Young*.—1, J. Eroyod, 2, R. Woods, 3, T. Charnley. *ANTWERP—Long-faced*.—1, W. Harrison, 2, W. Elles, 3, C. Hopwood. *Short-faced*.—1, W. Elles, 2, J. Eroyod, 3, W. Harrison. *vhc.*, J. Gardner. *Young*.—1, J. S. Collier, 2, W. Elles, 3, J. Wright. *TRUMPETERS*.—1, Mellor Brook Poultry Farming Company, 2, J. Wood. *TURBITS*.—1, G. Richardson, 2 and 3, T. V. Towson. *JACOBS*.—1 and 3, W. Sefton, 2, G. Richardson. *FANTAILS*.—1 and 3, J. F. Loversidge, 2, J. Stanley. *OWLS—English*.—1, W. Elles, 2, T. W. Slator, 3, R. Koe. *OWLS—American*.—1, B. Brown, 2, W. Elles. *NUNS*.—1 and 3, B. Bowden. *Mellor Brook Poultry Farming Company*.—1 and 2, J. B. Bowden, 3, J. Gardner. *LIKELIEST BRED FOR FLYING PURPOSES*.—1, Mellor Brook Poultry Farming Company, 2, W. Shaw, W. Wilkinson. *ANY OTHER VARIETY*.—1, J. Gardner, 2, G. Richardson, 3, H. Yardley. *SELLING CLASS*.—1, C. E. Chavasse, 2, T. Charnley, 3, A. P. Byford. *RABBITS—SPANISH*.—1 and *vhc.*, Schofield & Barrett, 2, T. & E. J. Fell. *AMERICAN*.—1, J. E. H. B. Barrett, 2, T. Charnley, 3, J. E. H. B. Barrett. *LEACH SILVER-GRAY*.—1, H. Woods, 2, J. Birch, Dutch, 1 and 3, J. E. Noble. *ANY OTHER VARIETY—Buck or Doe*.—1, I. E. Pilgrim, 2, W. C. Slater. *SELLING CLASS*.—1, Schofield & Barrett, 2, T. M. Atkinson.

JUDGES.—*Poultry*: Mr. E. Hutton. *Pigeons*: Mr. J. Esquilant. *Rabbits*: Mr. J. Boyle.

BIRDS FOR EXHIBITION.

In answer to "AMATEUR," we reply that one-half the battle is to send birds to the post in a cleanly condition, and not only the birds should be clean but the cages also. Not knowing what birds you wish to exhibit we cannot advise you as to what kind of cage to use. You will perceive by the announcements of exhibitions in the Journal from time to time when they will take place. This will afford you ample scope for the exercise of your fancy. In the advertisements you will notice the closing of the entry days, before which time you must apply to the various secretaries for schedules and certificates of entry. In filling up the certificates make them out yourself according to the printed instructions. Write your name and address distinctly, and state the age, sex, and breed of the bird you may wish to show, and fix a price for the sale of it in case of it being claimed. When sending off your entry forward by post-office order the amount of money entitling you to show, and likewise securing for you a catalogue and list of awards. Be sure and fill up and return the certificate before the expiration of the time specified for the closing of entries. Send off the bird for show so that it may be received in time to be judged, or it will not be noticed or entertained by the judges if it arrives too late for competition. Use a substantial wrapper for your cage, upon which wrapper let your name be attached, or probably it may get mislaid or fall into someone else's hands. When you receive the labels from the secretary (if you are exhibiting above one specimen) see that they are correctly tied on the cages, or your birds will be wrongly classed at the exhibition and will be disqualified, and all your trouble and expense will be in vain. Use tin vessels, and send enough food for the bird or birds during absence from home. Convey your birds carefully to the railway station and if possible let them travel by night train, for the loss of a little rest will not be so bad as the loss of food during the daytime. Wooden cages with wired fronts can be easier packed than wire cages. It is best when transmitting the latter to a show to have them surrounded by or inserted in a skeleton wooden frame, so that the wires may be protected. But do the best you may, your cages will be subject to rough treatment at times by some railway porters, who pitch and throw hampers and cages about as though they were pillows, regardless of the frail and expensive occupants. And sometimes much delay will be caused in the return of the birds, and each cage being packed separately, thereby laying you in for extra parcels rates, all through the want of a little attention and the use of some extra cord to attach the cages in one parcel.—G. J. BARNESBY.

## HEATHER FOR BEES.

THIS usually begins to open its flowers at the commencement of August, and, weather permitting, will yield honey for a month. If the weather be unexceptionably favourable strong swarms in large hives will gather from 30 lbs. to 60 lbs. in fifteen days. The heather is, I think, rather later this year, and will not be in very good condition till about the 12th. Let me remind beginners of the danger of breakdowns in removing bees in hot weather. Young combs in hot weather are about as soft as new-made butter, and very easily shaken from their holdings. The best time to go to the moors with bees is after they have been kept indoors by weather for a couple of days. If the hives be well ventilated and the combs be fastened to cross-sticks there will be little danger of the combs falling. Every precaution should be adopted. Hives without cross-sticks should have their combs steadied and supported in some way two days before they be removed. Common corks and half corks stuck between the combs, or two sticks laid across the board to touch the bottom of the combs, will assist them very much. Without a run on the heather, swarms will be comparatively light this year in our neighbourhood.—A. PETTIGREW.

### A MODEL POULTRY HOUSE.

THE fowl house illustrated herewith was designed by Mr. J. A. Storm, a prominent breeder of St. Joseph, Mobile, and is now

used by him with satisfaction. It consists of four rooms with runs attached, arranged around one centre room, so that with good light and ventilation the four apartments may be under the control of the attendant, and the fowls fed, watered, and



Fig. 11.—POULTRY HOUSE.

eggs gathered from the centre room without disturbing the fowls. The entire house may be heated from the centre room, which has a trap door to prevent the escape of heat. The partitions are of latticework, allowing free ventilation and an unobstructed view of the fowls. The rooms and yards are each supplied with running water

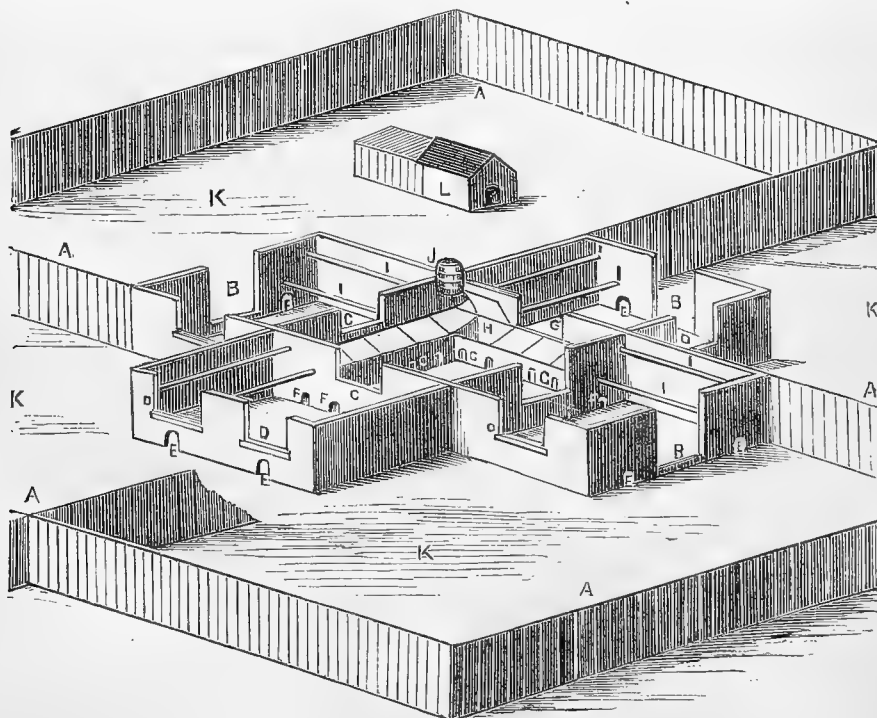


Fig. 12.—SECTION.

from the tank (v), which has four pipes leading to water-pans; twenty in number, and 16 by 20 inches in size. They are so the supply is regulated by means of cocks. The nests (H) are arranged that hens may enter them from the runs or from the

centre room as may be preferred. The tops of the nests are hinged for convenience in collecting eggs and attending to sitting hens.

When the hen wishes to sit, the opening from the run to the nest is closed, and the opening leading from the nest to the centre room is opened, so as to allow the hen to feed and water at pleasure, as in the centre room there is fresh water and food, &c., kept at all times. The object of such an arrangement is to prevent other fowls from laying to your sitting hens.

The roosts (r) are made of 1-by-6-inch pine, placed 2 and 3 feet from the floor, and so arranged that the droppings from the higher roosts cannot fall upon the fowls on the lower, and so far from the wall as to protect the plumage. The size of the building is 20 by 20 feet; the centre room is 8 by 8 feet; the outer rooms 6 by 8 feet; the height of the storey is 8 feet; the windows (w) are 2 by 4 feet, and the doors (d) 2 by 7 feet. The building is made of 1-inch pine boards, sheathed up and down with battened cracks, and lined on the inside with heavy tarred paper to prevent all draughts and cold in winter, and prevent vermin from collecting in summer. The entire building has a rough floor covered with sand, and is kept raked clean. The runs (A) to each room are 40 by 40 feet, and adjoining a grass run 80 by 100 feet for hens and chicks. The small house (L) for hens and chicks has a floor placed 2 inches from the ground, with an open run attached to allow the sun, and to prevent the larger chickens from disturbing them while feeding.

Instead of the door being in the outer end, it is in the end leading to the covered run, and hinged at the bottom so as to lay down on the ground for small chicks to enter, and at night it can be shut to protect from rats or vermin. One side of the roof is hinged so as to open to attend to the hen and chicks. After using this house for three years Mr. Storm considers it the best and most convenient known. The house will accommodate fifty hens, and can be diminished or enlarged at pleasure by changing the number of wings, and still retain all the conveniences.—(*Prairie Farmer*.)

### THE CUCKOO.

LONGLEAT, with its beautifully wooded park, is a favourite resort for the feathered tribes—in fact, some of the kinds are much too numerous, notably Bullfinches and Wood Pigeons; but Swallows, Wagtails, Cuckoos, Hedge Sparrows, and other insect-feeders are ever welcome, for the good they do is incalculable. We generally have several young Cuckoos reared in the neighbourhood. All that I have seen are reared by Wagtails, though occasionally I believe they are found in the nest of the Hedge Sparrow.

Last year, as late as the beginning of August, three of them were in the flower garden close to Longleat House, all tended by Wagtails; and their industrious foster parents had to work exceedingly hard to appease the appetite of their gigantic babies, who were quite strong on the wing, and looked large enough to swallow half a dozen Wagtails at a meal. I noticed at last that the Swallows became exceedingly jealous of them, fearing no doubt that they would cause a famine, and they bullied them a good deal, and I believe ultimately drove them away.

This year we had two Wagtails' nests in Pear trees against walls, each of which contained a Cuckoo's egg. One lot was destroyed, probably by rats; the other was hatched-out, and the Cuckoo kept on the nest long after he was too large to squeeze himself into it, and is now about the neighbouring trees carefully tended by his foster parents, who are evidently very proud of their infant prodigy. Of course the life of the young Wagtails which happen to be in the same nest with the Cuckoo is very short, for from the moment the intruder emerges from his tiny shell his mouth is open for all the insects the old birds can bring, so that if the young Wagtails are suffered for a time to remain in the nest they are certain to be starved. The Cuckoo's egg is very small for so large a bird, being but slightly larger than that of the Wagtail; but as soon as hatched the young bird grows at an immense rate.—WM. TAYLOR.

### ABOUT BEES.

THE extraordinarily hot weather which set in with July, and which had been growing in intensity up to Sunday the 16th ult., where it has not dried-up the flowers, has been magnificent for our bees. Happy those bee-keepers who, hoping against hope, fed and nursed their hives through the very trying winter and spring of 1875-6. Poor as my bees were in April and May, they have picked-up wonderfully, and I had the pleasure (before leaving home on the 10th), of taking off a large super weighing 33 lbs. net of excellent honeycomb from the hybrid Italian stock, which also had given me a swarm. A curious thing occurred in relation to this stock which I never recollect to have observed before in my long experience as a bee-keeper. Although this hive sent out a swarm early in June, of which fully half returned to the parent stock owing to my having put the swarm within a foot of it, and consequently the stock seemed

as full as ever, there was no piping heard at or after the usual time, nor, of course, was there any more swarming. On cutting-out the honeycomb from the super I found several of the combs had had brood, which was almost all hatched, and there were about half a dozen royal cells torn open at the sides as by a young queen. Had a second swarm issued, which I fully expected, it must have been a very large one. The surprising thing is that there was no piping.

As to the super of honeycomb, I had hoped to exhibit it at our coming Weston-super-Mare Show, but I was obliged to take it before it was fully filled owing to my projected absence from home, and the necessity of giving the bees ample additional room. Owing to the lateness of the season all my calculations and plans have been thrown out, and nothing remained but to give all hives and swarms as much room as possible to avoid late and lost swarms. Of late years my bees have chiefly swarmed in July, and many of them have been lost to me. Here in North Wales, I find bees swarming too, but this, perhaps, is the proper time amid the heather.—B. & W.

### MARKETABLE HONEY.

GREAT attention in America is being paid to sectional supers, which are very neatly and cheaply made. The wood is cut by circular saws, and with guide combs attached are sold for less than 1d. each. This is cheap enough to be given away with the honey, although being very light they are usually weighed and charged to the customer like the sugar-paper of the grocer. When the British bee-keeper learns wisdom enough to send his honeycomb to market in fine saleable form there will be no need to cry, "There is no market for honey." In case I am asked what I call fine saleable form I answer, Each comb should be distinct and full, in a frame or at least attached to a bar, cells all sealed over, unbruised and uncontaminated by brood or bee-bread; weight not over 4 lbs.; colour white or clear yellow. Such honeycomb in London is sold retail at from 2s. to 3s. per lb. according to the class of customer, and wholesale from 1s. 3d. to 1s. 6d. per lb. I had the pleasure of taking off this week two of Lee's supers filled with the above description of comb which a west-end grocer bought without demur at 1s. 6d. per lb., at the same time telling me he could buy any quantity of full combs out of hives at 10d. per lb., but the mess and waste was so great he would rather be without it.

Mr. Pettigrew's idea of filling small frames with such combs and then giving them to the bees to clean and fix will be found a failure. The bees' first and only idea would be to fill their hive, and to do this they will very quickly empty the strange combs. I have tried it and know it fails, although I gave them a much better chance than Mr. Pettigrew promises with his unfurnished hive. I will cite two instances. Last autumn I fed-up a stock with sugar syrup, and then when their combs were apparently as full as they would hold of brood and honey I placed over them a super of damaged combs, which I propped up and temporarily fixed where I wanted them to remain. The super was at once taken possession of, but very little repairs went on; the wet honey was quickly gathered up and carried below, and I soon found that as fast as ever bees hatched out or honey was consumed down went my super honey to fill up the vacancy, so that my combs were lighter day by day.

Last week the honey harvest suddenly ceased with me, and in a super over a strong stock I had two outside combs with their corners not full. Careful watching convinced me that some fresh cells were emptied every day, so I slung out some honey from a neighbouring hive and gave 3 lbs. of it in a feeding bottle for the bees to finish their super with. Now the bees carried this all down through the super to the stock hive. Not one ounce did they leave on the way; and when the bottle was quite empty, like little lunatics they tore open the cells and half emptied two combs in twelve hours. This was too much of a joke, so the remainder was at once taken away, and the spoil of the thieves is awaiting a few turns of the extractor and my leisure to increase my store within-doors. I thought I would try what another stock would do; and selecting one where the bees were crowding into a super but doing no work, I placed on the frames without the interposition of any crown board a set of sectional supers, and over them two bottles of new honey. As in the other hive the bees carried this all below, travelling over a nice new empty decoy comb, which they left as empty as they found it. I cannot help chuckling at the future disappointment of the little rogues, for the honey is only lent; ten minutes' work of the extractor will bring it all back.—JOHN HUNTER, *Eaton Rise, Ealing*.

### MODIFICATIONS OF MANAGEMENT.

CIRCUMSTANCES alter cases. Necessity has no laws. The farmer considers the condition of his land and the markets around ere he adopts a three or four-course rotation of crops. The gardener has soil, climate, and the wants of the family of his employer to consider. In bee-farming no hard-and-fast line



should be drawn. Every active open-eyed apiarian seeking profit goes beyond the A B C of his lessons and improves on his own practice. As the houseleek feeds on its own substance, so farmers, gardeners, bee-keepers, &c., grow stronger by feeding on their own experience. There is no end to the variety and modifications of management in the apiary. Within its limits there is scope for unlimited operations and developments of practice. A few hints may, perhaps, be gathered if we now give a little of our treatment this season.

We have turned out the bees from all our stocks and taken their honey, which is excellent, and is being readily sold at 1s. 3d. per lb., comb at 1s. 6d. This first harvest has been moderately bulky—larger than any other early harvest we have had for some years. The greatest yield has been from a hive containing 3600 cubic inches of space—namely, 18 lbs. of pure virgin honeycomb and 17 lbs. of run honey, value £2 8s. The two swarms from this hive are now filling hives containing 4200 cubic inches of space each. The cold weather of the spring months was very unfavourable for both breeding and brood, causing us to fear the beginnings of foul brood. In all the hives taken we found foul brood to a small extent, which would certainly have spread rapidly and spoiled the hives for both keeping and working if the bees had been allowed to remain in them. Now, with two exceptions, our hives have sweet combs not two months old and free from a cell of foul brood. Two large hives with honey in them died in the spring. From these we cut out all the centre combs and put swarms in them. The outside combs containing the honey of these two hives are the only combs that were built last year. The turning-out process is very useful to us, for by it we rid our hives of combs stained by use and cloyed with pollen. The hives yielded about 25s. worth of honey on the average. The combs in most of them, though only twelve months old, were rendered nearly useless by a superabundance of bee bread. In some of the hives five cells out of every six in the breeding-combs contained pollen, and made the combs about as solid as cakes of gingerbread. I cannot understand why anyone can recommend the use of pea flour for bees. Why the bees accumulate such quantities of pollen, and thus prevent healthy progress, is equally difficult to understand. To witness the dissection of a hive as we dissect ours would be enough to convince our readers of the superfluity of pollen existing in hives.

The best time for turning bees from stock hives is about the twenty-first day after first swarming, for then the brood is all hatched and the swarms have time to fill their hives with combs and store up food enough for winter or for a second harvest. When hives are in an unhealthy condition and not thriving we turn their bees into empty hives, where they generally commence house-furnishing with new zest and vigour. The progress of one of our hives this season was so sluggish that I came to the conclusion that the bees were discouraged by the presence of foul brood. On examination I found it was so, and at once turned the bees into an empty hive, in which they are now doing well.

Some late swarmers had queens from early swarmers, and these queens began to lay before the brood in them was all hatched. At the end of fourteen days we drove the bees into empty hives, and thus sacrificed the unhatched brood for the benefit of the swarms. By adopting the turning-out system of management a bee-farmer has flower or clover honey in the market very early, and this to us is a great advantage, for our home customers are exceedingly fond of flower or clover honey; we therefore try to get as much of it as possible before the bees are removed to the heather. In honey seasons our swarms become heavy before they are removed to the moors. Sometimes we use the comb knife and greatly lighten them before removal.

In unfavourable seasons for honey-gathering it is sometimes a stroke of good policy to increase the number of stocks, and in very favourable seasons to reduce their number by taking all the honey possible. Within the last ten years we have had two seasons remarkable for honeydew, which spoiled and discoloured the honey, making it quite unsaleable. What is called honeydew is simply the dirt of an insect, which when gathered by bees is an abomination in hives. It is not healthy food for bees, but they eat it. We take no honey for sale or from bees when they gather honeydew, but increase our stock of hives. On the other hand, when all our hives rise to great weights the temptation to make hay while the sun shines (to use a common expression) is very great. In such seasons it is a stroke of good policy to run a great deal of honey into the money bag.—A. PETTIGREW.

### OUR LETTER BOX.

**POULTRY-KEEPING EXTENSIVELY (H. B. B.).**—We do not believe you will get a living by selling eggs or by keeping poultry in confinement. If you have a farm of thirty acres, affording your fowls a good range, and enabling you to grow the food, and thus get it at the lowest cost, you will find poultry a great help; but like everything else that is intended to pay and contribute to a living, or it may be something more, they must be well attended to,

and not cared for in spare minutes or fed with refuse. Near a town there is always a good demand for eggs; and wherever good poultry is offered for sale there is always a demand for it. The calculation of the number of eggs that will produce enough to keep a man would not be difficult if we knew the sum required.

**CHICKENS FEATHERING BADLY (Amateur).**—We disapprove your feeding altogether. We are almost tired of telling people they will only do well with poultry while they follow nature. We believe in no artificial foods, and where poultry is most successfully kept you will never find any of them. The only good thing you have is lettuce; give them plenty of it. Give ground oats or barley meal slaked with milk. Give them fresh earth moved with a fork. The food you have been giving is heating, and the feathers are dried up before they are entirely formed. Do as we have told you and your birds will soon be feathered.

**CHICKENS DYING (Leyland).**—We do not consider your feeding good enough for chickens, and but for the help they have running about the garden more would have died. Indian meal is bad, possessing nothing but fatty matter, at a time when bone and muscle are wanted. Sharps are bad. Chickens want the best of everything, and if they are stinted when young they never make up the lost way. At five weeks old they should have bread crumbs, ground oats, crushed wheat, chopped egg, cooked meat scraps chopped fine, table sweepings, and oatmeal mixed with milk. These can be diminished as the chickens grow older. All the modern appliances in lieu of good wholesome food tend to loss of power. Fat is not strength, nor does bulk in chickens prove they are doing well, unless it is sure that it is the result of nourishing and plain food, such as birds get in a state of nature. It is feeding such as yours that brings leg-weakness and other maladies.

**CROSS-BREEDING FOWLS (Mrs. P.).**—Houdans and Dorkings can be interbred.

**SEEDS FOR BULLFINCHES (T. R. W.).**—Full directions for feeding them are in our last number. Any grass seeds will do.

**WHITE DRONES (Leyland).**—The sentence which you have quoted from the "Handy Book of Bees" is not absolutely correct, and should have been explained, for it was meant to cover the conduct of the bees before swarming and undisturbed by enlargements. Drone cells are filled with brood in the expectation of swarming, and often when weather brights the hopes of the bees and threatens them with poverty they begin to cast out white drones. In times of prosperity before swarming, or when all is in an advancing condition towards swarming, healthy white drones are not dragged from their cells. Your hive has been doing well, but since you have enlarged it by eking and supering the weather has become much colder, causing the bees to abandon the idea of swarming; hence they have commenced casting out their worthless young—a wise provision in the economy of a bee hive. Towards the end of the summer white drones are frequently cast out of heavy full hives, and even during the summer months one may see the bees dragging out young drones that died in their cells before the time of hatching.—A. P.

**CANARY WITH HEAD ALMOST FEATHERLESS (Theda).**—Red sand is the best, but still the want of it would not cause the bird's head to be bare of feathers. If, where the feathers are off, there should appear any scurf, gently rub or anoint the part affected with oil of sweet almonds, or lard, or fresh butter. Give the patient a drop of castor oil twice each week during illness. Discontinue the use of apple, and so much green food. A little lettuce or watercress every other day will suffice. Let canary seed form its main food, giving still less hemp and rape, and by all means scald the latter before using it. If you could devote a spare room or spacious fly to the bird during the moulting season, supplying a bath daily, perchance your pet would recover its plumage.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
	Barom- eter at 32 inches at Sea and Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.	On grass	
		Dry.	Wet.			Max.	Min.	deg.	deg.			
1876.	Inches.	deg.	deg.	S.W.	deg.	deg.	deg.	deg.	deg.	In.		
July.	31.054	65.9	59.8	N.W.	67.7	81.0	55.3	130.1	51.2	0.026		
Aug.	30.023	62.6	53.4	N.E.	69.4	73.2	55.9	129.5	56.8	—		
	29.738	63.0	57.9	S.W.	68.6	69.4	57.5	90.3	52.4	0.268		
	29.935	62.3	54.3	S.W.	65.3	73.2	61.0	125.3	48.4	—		
	30.196	68.1	59.1	N.W.	65.9	76.5	55.5	122.8	50.6	0.059		
	29.686	63.3	61.2	S.	66.3	69.9	58.6	115.0	57.0	0.240		
	30.021	58.3	51.7	S.	63.9	69.7	46.7	117.4	44.5	—		
Means.	29.951	63.4	56.8		66.	73.7	54.4	117.8	51.6	0.593		

### REMARKS.

26th.—A bright fine day, with a cool breeze, especially at morning and evening.  
27th.—Rain for short time in early morning, very fine at 9 A.M.; a beautiful day with pleasant breeze.  
28th.—Rather dull morning; rain began at 1 P.M., and there were frequent showers during the rest of the day.  
29th.—Very bright and pleasant day after the rain of the preceding one.  
30th.—A very bright pleasant day and night.  
31st.—Rainy morning, fine forenoon, but heavy showers in the afternoon; peculiarly storm-like sky at sunset, though it was a very bright one.  
1st.—A very fine day but rather cool.

Like the preceding week, that just closed has gradually decreased in temperature, the maximum in shade which was 92.6° on July 15th was only 69.7° on the 1st of August. The total fall of rain in July was only 0.815 inches, being less than half the average.—G. J. SYMONS.

### COVENT GARDEN MARKET.—AUGUST 2.

A brisk business has been doing during the past week, and nearly all classes of goods have been easily cleared owing to the falling-off in the supply of soft fruit.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 10—16, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
10	Th	Taunton Deane Show.	75.1	51.9	63.5	4 49	7 30	9 5	10 27	20	5 8	223
11	F	Filey Show.	75.8	50.7	63.2	4 41	7 28	9 19	11 49	21	4 53	224
12	S	Otley Show.	75.1	50.5	62.8	4 43	7 26	9 39	1a 11	22	4 43	225
13	SUN	9 SUNDAY AFTER TRINITY.	74.5	50.0	62.3	4 45	7 24	10 7	2 53	23	4 33	226
14	M		72.9	50.8	61.8	4 46	7 23	10 51	4 1	24	4 22	227
15	Tu	Weston-super-Mare Show.	73.1	50.0	61.6	4 48	7 21	11 54	5 12	25	4 10	228
16	W	Preston and Shrewsbury Shows. Royal Horticultural Society—Fruit and Floral Committees at 11 A.M.	73.0	51.5	62.2	4 49	7 19	morn.	6 6	26	3 58	229

From observations taken near London during forty-three years, the average day temperature of the week is 74.2°; and its night temperature 50.6°.

## WATERING FRUIT TREES.

**U**NQUESTIONABLY a matter of considerable importance is the supply of water to our hardy fruits. It is especially important during seasons when the trees are laden with heavy crops of fruit. It is clear that these fruits cannot be perfected without an adequate supply of water. After an exceedingly productive fruit year how often is the next year barren. The trees cannot perfect their exhausting crops and at the same time

lay up a sufficient store of material for the crop next following.

It is sometimes forgotten that fruit trees have this double function to perform—they must not only carry the crop to perfection, but they must also provide the blossom for the following season. Now a fruit tree will not divide its force equally between these two requirements. With the tree the primary object is to perfect fruit and ripen seed, the production of blossom for the year following being secondary. Its whole resources are appropriated first to satisfy the cravings of the fruit, and only when it has surplus power is this devoted to the extension of the tree and the preparation of future crops. This is seen by an overlaid tree refusing to make growth. How many trees—how many orchards are there—which have a sort of historical notoriety for bearing “every other year?” They are found in almost every parish where fruit is extensively grown—it is hardly fair to say cultivated. Such trees have only power to perfect their fruit, and have no surplusage to provide for the next season’s crop. As masters we must guide and assist the trees, and they will be good servants. We must not work the trees unreasonably, neither must we nurse and pamper, or the position becomes reversed, and the servant is in the position of master, and does what he will and not what we wish.

Now when once a tree is fruitful it is guided to further fruitfulness by the way it is treated. It is not too much to say that thousands of trees are every year over-weighted, and the fruit must be thinned or the roots must be watered. If either or both these aids are not afforded the fruit of the year will not only be excessive, but the trees for next, and it may be future years, will be rendered unprofitable. “But we cannot thin the fruit or water the trees of an orchard,” some may say. Certainly not; but apart from that, a quick decision and setting to work instead of arguing the point of how little can be done will result in immense benefit to many trees within the reach of our means, and which by lethargy, fancied inability to aid, or erroneous reasoning may be left to become debilitated, and neither contribute profit nor credit to the grower.

But besides lethargy there are erroneous notions to combat. It may be held that fruit trees do not require water, simply because excess of moisture by undrained ground is injurious. There are those who have such a horror of water that nothing could induce them to water

a Vine border or a fruit tree. They point to the evils arising from roots reaching the subsoil, and hence refuse to apply water. It is true a wet hungry subsoil is pernicious to fruit trees; but how come the roots there? Trees must have water, and if it is not afforded them near the surface they will ramble in search of it and food into the most sour, ungenerous, and waterlogged soil. They do not rush down there in the winter, but it is in the summer when the sun is exhausting them of life that they strike down for the support which they cannot find near the surface. Unfortunately they cannot in the autumn withdraw their roots, or the evil would be much lessened. Giving trees, including Vines, good support near the surface in the summer is the best preventive of their being in a deleterious medium in the winter. The best Grapes and the finest fruits of all kinds are produced by copious supplies of water. It is surprising how much water a fruit tree in full bearing will appropriate, and never without benefit to its exhaustive crop of fruit.

But all trees do not require to be watered, yet it is easy to determine those which would be benefited by a thorough feeding at the roots. If a tree old or young is making a free growth of wood no stimulant is needed; but if, as is the case with so many trees at the present time, the fruit is appropriating all the support which the roots can supply, and there is no surplus strength to provide healthy spurs and satisfactory extension growth, then the fruit must be further thinned, or support must be given to the roots. Wall trees which are heavily laden and growing in light soil on hot aspects will be much benefited by the application of liquid manure, and over this a surface dressing to arrest evaporation. A day’s work now and then devoted to this matter would be more profitable than is generally understood. Vine borders, the surface of which is impoverished and dry, should be enriched by the same means, for the roots will not be so active to dive down in search of food and moisture if a due supply is afforded them nearer the surface. Pyramid and bush fruit trees crushed to inactivity by a heavy load of fruit will derive great assistance by a thorough application of liquid food. Even a prized old Apple tree, it may be a Ribston Pippin, or any sort the fruit of which has a special value, will have vigour imparted to its weakened frame by a cartload of liquid manure given to the roots. A Pear tree which is carrying pecks of fruit, it may be a Citron des Carmes or other approved sort, from which it is desirable to have all the fruit possible and of good quality, will rejoice in the gift of a liberal supply of liquid manure. It will make all the difference between cracked and deformed fruit and full-sized smooth specimens—between refreshing juiciness and full flavour, and dry mealiness and insipid flesh.

Experience in a dry district enables me to speak with confidence of the great benefit which heavily-laden trees, young and old, on walls or in the open garden, derive from one or two thorough soakings of liquid manure during the swelling season. A liquid-manure tank which takes the drainings from dunghills is a store of great value and a rich larder of food for exhausted fruit trees.

Where such a store is not provided guano affords the most ready means of manufacturing liquid food. It may be applied at considerable strength to aged fruit trees. I have used it at the rate of 3 or 4 ozs. per gallon with the very best results.

But it is only in the case of trees that cannot make wood growth to which applications are needed. If there are 6 inches of healthy extension growth manurial assistance is not necessary; but if there is no such extension growth, or if the foliage is yellow, the wood small, and the fruit not swelling so freely as is desirable, then a copious application cannot fail to be of great benefit to such overworked trees (and they are numerous), not only in improving the present crop of fruit, but in preparing the trees for better service in future years. —A NORTHERN GARDENER.

## LESSONS OF THE SEASON.—No. 1.

### SPRING.

A DREARY spring, cold and wet, with fitful and rare gleams of sunshine, the soil sodden and cold, young and tender vegetation stunted, crippled, and blighted, foliage torn by the wind and hailstorms, blossom most abundant, expanding but to die. Such was the spring of 1876—a season of ungenial severity, a time of trial such as is not often experienced even in our fickle changeable climate. It was emphatically a season of results arising from unmistakable causes—results that were for the most part disastrous, but which are not without their value from the plain teaching which they gave us of lessons hard to learn.

To begin at the beginning, let us first turn to the soil and afterwards to the crops growing therein; for without good soil it is quite useless to plant or sow, however favourable the season may be. The fact is so self-evident that to put it on paper appears almost an absurdity, and yet do we not constantly hear it said that soil is so heavy, stiff, sodden, cold, that timely planting is impossible? Remember, it is not of a field or farm land I am writing, but of those choice morsels of mother earth termed gardens, sometimes defined as “rich well-cultivated spots,” so precious as to be enclosed by costly walls and fences. Now one would naturally suppose that when a portion of land is so enclosed it would forthwith be wrought into the highest possible state of cultivation; but this is very frequently only half done, the unfinished part, the weak point, remains unaltered till it leads to almost total failure. In a cold wet spring like that which we have just experienced soils badly drained or deficient in gritty matter were so saturated that cropping was out of the question; there was nothing for it but to wait for brighter times—a serious matter when a steady unbroken supply of vegetables has to be maintained.

I have soil in various stages of improvement, from a barren crude state up to a light, rich gritty—very gritty—condition, the best of which I consider to be as nearly perfect as is necessary for all practical purposes. It is thoroughly drained, is rich in fertilising substances, and contains so large a proportion of gritty matter—really coal ashes and shattered bricks, that a tool will pass readily through it however wet it may be; so that seeds may be, and in point of fact are, sown on the first fine day in a season of undue wetness. In proof of this I will give one or two dates. On February 24th the rain held up; the sun shone with a drying wind; Canterbury hoes were run through the soil in the morning, and in the afternoon drills were made and seed sown of Brussels Sprouts, Cauliflower, Early Broccolis, Cabbage, Savoy, Leek, Turnip, Carrot, Radish, Lettuce, Spinach, Parsley, and Peas. In due course the crops came up strongly and well without a single failure, all of them proving of the very greatest service. Now this soil, in addition to its high state of culture, had the advantage of being thrown up roughly in autumn, and thus lay ready to my hands when the opportune fine day for which I was on the outlook did occur. To show how important it was to seize that fine day I refer to my journal and find the following entries. February 20th, a wet Sunday; 21st, wet and stormy; 23rd, a rough dull day; 26th, a dull showery day; 27th, another wet Sunday; 28th, a showery morning; 29th, showery all day; March 1st, a wet morning; 2nd, a fine morning, which soon changed to a showery day; 3rd, another day of miserable weather, a high wind with rain all day.

Let not anyone suppose that I possess exceptional advantages, or that what I have done may not be accomplished even in the smallest gardens. The mistake which so many of us make is in trying to do too much in the first instance. To improve the condition of the soil of a single border is a very

different matter to applying a similar process to an entire garden, and yet by having that one border in suitable condition for a seed bed at any time we secure a supply of seedlings ready for transplantation to less favoured spots later on, and yet quite early enough to secure good and seasonable crops. By all means let us cultivate every part of the garden as well as we can, but in doing so let us make sure of having a certain portion in a condition of high excellence, aiming to bring the remainder up to our standard however slowly it may have to be done.

Summer is passing rapidly away. Let me urge upon those who have a bad soil and are aware of its attendant evils, to rival my seed borders by devoting special attention to one or two of theirs in the ensuing autumn. Do not rest content with just putting on manure and throwing up the soil roughly to frost and wind; but first of all dig it over, then put on a layer of old manure and hard grit—road scrapings, coal ashes, stones broken finely, mortar rubbish, burnt clay, or shattered bricks. Any of these will answer admirably provided you use enough, say 6 or 9 inches, of manure and grit. Stir this well into the soil, turning it over till a thorough mixture is effected, then lay it up in slight ridges or in any rough fashion for the winter, and whether next spring prove wet or fine you will have an excellent seed bed, not only because its free open nature will enable you to sow at almost any time, but also because it is that very property, combined with its richness, which will ensure prompt vegetation and a free strong growth.

The foregoing formula applies generally to new rather than to old gardens, yet strictly speaking it is applicable to all soils that are of a poor, close, or heavy texture. In old gardens the soil is very frequently found to contain such a superabundance of humus as to induce a soapy condition in a wet season. The very best corrective for this is a free dressing of lime and coal ashes, after making sure that the drainage is all right. Many a garden suffers in spring from defective drainage, which, in addition to the sodden condition of the soil, or rather for that very reason, induces a low temperature and a moisture-laden atmosphere that is very hurtful—often fatal to tender vegetation.—EDWARD LUCKHURST.

## DOUBLE PYRETHRUMS FROM SEED.

THE value of these as decorative plants in early summer is being recognised, and the beauty of their blooms—varied hues and brightness being combined with form and endurance—enable them to rank high as cut flowers. The “cup” of the Rose and “incurve” of the Chrysanthemum may be wanting; nevertheless, what the Chrysanthemum is in autumn these are in early summer—half balls of loveliness, equalling in size Anemone-flowered Chrysanthemums. The plants commence flowering in May, and are at their best in June, and are by their distinctness of form and diversity of colour likely to meet with a more than ordinary share of patronage. This year, from the end of May to the second week in July, blooms were available for cutting, and a further supply was afforded in late summer and autumn.

The Pyrethrum has been much improved of late years. There are many very fine named varieties, but it is not of those that I wish to descant, for there is a vast majority who would not invest in a dozen plants in variety who need no prompting to speculate in a packet of seed. In the matter of Pyrethrums I have had from packets of seed no more single flowers than are to be found in Ten-week Stocks.

Seed sown early in August in light sandy soil in a warm situation and lightly covered with fine soil kept moist will germinate in a few days, and the seedlings may remain in the bed until spring; but I think it best to prick them out when they are showing the second leaves into rows 6 inches apart and 3 inches apart in the rows, in light moderately rich soil in a sheltered situation, shading for a few days if the weather be bright until established, moving in March or early in April to their flowering positions. A moderately light well-drained soil is desirable, enriched with leaf soil or well-decayed manure. Two feet from plant to plant is a proper distance for them in the mixed border, but I prefer to plant in “trial” beds, putting out the plants in 4-foot beds, four rows in a bed, with a foot distance between plant and plant. When advancing for flowering they are grateful for liberal support in dry weather. Weak liquid manure once or twice a week or oftener, according to the weather, is beneficial. Many plants are pronounced poor because there is nothing in the soil to bring them out differently.

Indifferent and superior cultivation makes the difference between poor and good blooms.

If a plant shows a single flower—a single row of petals with no centre florets—pull the plant up, and mark such flowers as are desirable by their size, doubleness, and colour for continuance. Not unfrequently there will from a packet of seed be a fair proportion of plants in the various shades of colours—white, pink, and rosy shades up to carmine and crimson, with sparse sulphur tints. Save the best of each colour—i.e., if it be wished to go on improving by raising plants from seed, and any not wanted for that purpose may be planted in the mixed border. After flowering the flower stems should be cut away, and in their place will arise others, giving flowers in late summer and autumn. Beyond a liberal dressing of manure, leaf soil, or other compost in autumn as a top-dressing to be pointed-in in early spring, they do not require any further care, and they will last for many years.

Seed sown in spring—in March, in pans, and placed in a hot-bed, keeping near the glass and well ventilated—will produce plants which if well cultivated will flower towards the end of summer, and give a grand bloom in the June succeeding. Seed may also be sown in May in the open ground, the plants being pricked-off when large enough, and finally planted in the blooming beds with the first moist weather in September, and they will flower well the following season.—G. ABBEY.

### THE POTATO DISEASE.

I HAVE read attentively and with great satisfaction and instruction the lucid article of Mr. W. G. Smith, and I consider that article and the admirable illustration accompanying it on pp. 52, 53, and 54, the most clear and intelligible of all the scientific contributions which have ever been published on this subject.

We see now the seeds of the disease clearly and plainly. The working of the disease is now placed beyond the bounds of conjecture. Mr. Smith has, I believe, received the recognition which he has so well merited by his patient and careful research and successful discovery at the hands of the Royal Horticultural Society, and I for one practical gardener congratulate him most cordially.

There is only one sentence in Mr. Smith's letter over which I stumble. It is this—"As the healthy Potato will always take the murrain from these spores as certainly as a healthy man will take the small pox when inoculated for that disease, it is reasonably considered that the Potato fungus will cause the disease." It is the word "always" to which I take exception; for in the year 1872, when the murrain was unusually prevalent, I made several experiments by way of communicating the disease to different varieties of Potatoes, also to the same varieties under different treatment, and the result of my rude experiments was that Potatoes will not "always take the disease." Some varieties took it quicker than others, and some under glass not at all, while others under glass became affected when the artificial treatment to which they were subjected rendered them amenable to its attacks; in other words, when the sap of the plants and the surrounding atmosphere were in a proper state for the germination and spread of the fungus.

I was led to think then, and I think still, that the sap of the plants must be changed and be in some way impure before the fungus-spores find a suitable medium for their development. I think, therefore, that the primary cause of the Potato disease is impure sap. Mr. Smith, like a loyal fungologist, believes that fungus is the cause of Peach blister, but others, and myself amongst the number, think it is only the consequence of an anterior cause. In assuming that the fungus is the cause of the Potato disease Mr. Smith reasons by induction. Nearly any preconceived opinion may be supported by induction. By induction also we may arrive at an exactly opposite conclusion. It is not very unreasonable to consider that the Potato fungus is different in its nature to other fungi. Most if not all of these are by many regarded as Nature's scavengers—feeding on the impure. Mould on jam may be seen, but the jam first "goes bad." We may not perceive the impurity until we see the effects of it in the germination of the fungus spores, and then, perhaps hastily, we confound the cause with the effect.

I have taken Potato haulm reeking with the disease and attached it to healthy plants, and in some instances the disease has "took" at once, while with other varieties or conditions of the same variety it has either "taken" very slowly or not at all. If a Potato plant is perfectly healthy and vigorous it

will not take the disease, unless the atmosphere is unusually moist and the temperature abnormally high. I have proved this on a small scale artificially, and many years and sad loss of crops have proved it on a large scale naturally, but to say that the Potato will "always" take the disease is not a fact.

There cannot be extensive Potato disease without heavy and continued rains in connection with a high temperature. But with either of these conditions alone the murrain does not spread. If it was otherwise, a year notorious for an outbreak of the murrain, and where seed (spores) must have been sown in the greatest abundance, would be followed by another great crop of fungus and consequently disease. But this is not so. Let the disease be ever so virulent, and resting spores be produced in myriads, and that year be followed by ten dry years, the crops will be safe—there will be no disease; but if the eleventh year is a wet year, if rains are protracted and the plants and atmosphere become saturated, and at the same time a high temperature prevails, then will the disease again be of the most violent kind even if no diseased tubers have ever been produced on the same site and in the same soil.

Some years ago I was witness of some careful experiments relative to the Potato disease. A large block of venerable buildings were occupying a low damp position. It was decided to pull them down. The age of the buildings was so great as to date from a period anterior to the distribution of the Potato in this country. Soil (sand) for raising the ground was brought from an Oak wood, which in all probability had been a wood for centuries. This was placed in a heap on the ground and some of it was spread, and the site of the old buildings was planted with Potatoes. The site was still wet—that is, naturally lower and wetter than the surrounding ground. Not a particle of manure was used, and the crop on this "fresh ground" was prodigious. But the month of July was wet and sultry, and the disease was virulent and prevalent, commencing on this wet fresh site, and being there worse than on the older, higher, and drier ground contiguous. But the most striking fact has yet to be mentioned: On that part of the fresh soil that was not spread—a cone-shaped heap in the centre, which was also planted with Potatoes—there was no disease. There was the disease all round, even to the extent of destroying the crop, and yet on the cone-shaped heap every Potato was sound. There the soil was not saturated, the plants remained healthy, the sap pure, and no suitable medium was provided for the germination of the disease-spores. They were not in the site, neither were they brought in with the soil. They must have been introduced with the sets, or have been brought by the wind.

All experience teaches the same lesson. In seasons when disease is rife it is the worst in the wettest and rich soils, and the least severe in upland sandy districts. We learn from this not to manure heavily, and to deeply work and well drain the soil so that superfluous moisture may pass away.

In the instance noted, if the Potato disease was caused by the fungus, the fungus was caused by something else. That "something" was superfluous moisture and excessive heat, rendering, as I suspect, the sap of the plants impure by imperfect elaboration; or why were the plants on the mound free from the malady?

I have seen plants since then on many other mounds free from disease while crops on the surrounding level have been all but ruined. Potatoes do not, therefore, "always take the disease," and further than that I believe they will never take it if extreme wet with excessive heat do not call it into action.

We are brought now to the conclusion that has been so frequently advocated in the pages of this Journal: We cannot control the weather, but we can in a great measure the crops. We can plant kinds that mature early, and thus steal a march on the elements and save our crops from the rains and heats of July. That is what practice teaches, and in corroboration there is the fact that I have not had a diseased Potato in my early crops for twenty years.—A. N. G., *Lincolnshire*.

### OSMASTON MANOR CUCUMBER.

I HAVE grown this variety of Cucumber in a house with several other sorts, and I find it excellent. The plant is a free-grower and produces an abundance of fruit. These are not only of a large size, but are handsome in appearance, and the flavour is very good. The fruits also keep green longer than those of any other variety—in fact, they do not appear to "go yellow" at all. On that account this Cucumber may



be useful for certain purposes, and I believe it to be worthy of notice. I do not, however, consider it quite the best Cucumber in cultivation, for, taking into consideration all points—size, appearance, free cropping, and quality, that honour I must award to Tender and True. Osmaston Manor is nevertheless an excellent variety, and for keeping purposes is the best I have grown or seen.—A MARKET GARDENER.

### ROYAL HORTICULTURAL SOCIETY.

At a meeting of the debenture-holders of the Royal Horticultural Society held on the 1st inst. Mr. Edgar Bowring took exception to a statement we made at page 74, in which we remarked, "As it is well known that there has not been, except in two or three years, any surplus receipts from the gardens, the payment of debenture interest was manifestly most culpable." Mr. Bowring said, "At all events the minutes of the meetings show that up to the last three, or four, or even five years the interest was honestly and fully earned, and therefore to the statement that it was improperly laid out, that I think is a sufficient answer."

Now we do not know what the minutes of the meetings of the Expenses Committee show, nor do we know what statements of accounts were submitted to the Committee, but we are content to accept Mr. Bowring's statement as perfectly correct from what was within his knowledge. Our statement was made from facts gathered from the printed accounts of the Society, which were distributed annually among the Fellows. These accounts show the income and expenditure of the Society for the year, and it is from the surplus receipts of the year that the debenture interest was to have been paid. Let us now see from the following statements whether or not the surplus receipts were sufficient to pay the interest, and that the Council were justified in doing what they did.

In 1862, the year of the Great Exhibition, the Society paid the full amount of rent to the Royal Commissioners for the year, and the full amount of rent in advance for 1863, leaving a profit of £1013 11s. 7d.

	£	s.	d.	£	s.	d.
1863. Liabilities .....	1433	5	8			
1864. Liabilities .....	3546	4	7			
Due to Treasurer .....	2784	10	3			
Deficit after paying interest .....				6330	14	10

In this year the life compositions were sold to meet the deficit, and yet the debenture interest was paid out of surplus receipts!

1865. Liabilities .....	369	2	8			
1866. Liabilities .....	980	10	4			
Balance contra .....	263	17	7			
Deficit after paying interest .....				1134	7	11
1867. Liabilities .....	300	0	0			
Balance contra .....	373	0	11			
Deficit after paying interest .....				673	0	11
1868. Liabilities .....	1166	7	10			
Balance contra .....	1179	5	10			
Deficit after paying interest .....				2945	13	8
1869. Liabilities .....	2409	12	10			
Balance contra .....	1331	18	11			
Deficit after paying interest .....				3741	11	9
1870. Liabilities .....	1592	1	7			
Balance contra .....	1313	9	6			
Deficit after paying interest .....				2905	11	1
1871. Liabilities .....	1597	0	3			
Balance Cr. ....	155	15	0			
Deficit after paying one year's rent and interest .....				1441	5	3
1872. Liabilities .....	1865	4	1			
Balance contra .....	376	19	9			
Deficit after paying interest .....				2242	3	10
1873. Liabilities .....	3487	6	1			
Balance contra .....	1136	1	2			
Deficit after paying interest .....				4623	7	3

1874. It is impossible from the published statements to arrive at what the actual receipts and expenditure really were in this year, for it is well known that entries were made of payments under the head of expenditure which had never been made.

1875. Balance contra ..... £3210 16 11

It appears, therefore, that in no year since the Society entered into the agreement with the Royal Commissioners have the surplus receipts ever been sufficient to pay the debenture interest except in 1862.

### SIR J. PAXTON STRAWBERRY.

My experience of it here may be of value. Last year I had fifty plants and forced them; they did fairly well. I raised

a hundred from them, and obtained the largest, particularly forced Strawberries, I have ever seen. Some few were 2½ inches by 1½ inch, and of proportionate thickness. I planted out the plants from which the runners were obtained that produced the fine fruit, and they have been perfectly barren. Other old forced plants of other varieties treated similarly have borne well.—EDWIN CHILD, Gardener to J. P. Heywood, Esq.

### ROSES UNDER DIFFICULTIES.

A BROTHER of mine who lives in the West Riding has for years been cultivating Roses, and until this year has had most indifferent success. His rosery lies very low, not far from a running stream called in Yorkshire a beck, which is the receptacle of every kind of filth. He is surrounded by mill chimneys, and the climate is severe. But, on the other hand, he has a magnificent soil, I should say there could be no soil more suitable for Rose cultivation. The frosts there continue so long that they often cut back his plants after the Crystal Palace Rose Show is over; this year, indeed, on the 4th of July the thermometer was only 3° above freezing point.

Year after year have I been to see his Roses, and have always been disappointed, but this year he has had some very fine blooms. I staged for him a box of twelve Roses for the Brighthouse Show which were exceedingly fine; but unfortunately he had omitted to enter them, so he could not compete; The judges, however, admired them so much that they highly commended them. My object in writing this letter is to help any rosarian who is placed in a similar difficult position by relating my brother's experience.

First, then, the great secret is to prune very late. For years he has pruned early in March, and for years he has failed. This year it was nearly the end of April before he touched his Roses with a knife, and they have done well. The reason is obvious. If you prune early your plants are only just recovered from their stagnant condition or period of rest, and are not sufficiently established to withstand any sudden check, so when the frosts come the Roses are cut down almost to the ground, and have to be pruned again; but if you leave them the frost kills the tops of the shoots, which the pruning knife would in due course remove, and when you do prune your plants will start at once without being much injured, but only retarded by the late frosts.

Secondly, do not syringe more than you possibly can help. My brother formerly had the hose going all day, but to no purpose; the blacks fastened on the foliage persistently, and he could not keep them under. This year his foliage is comparatively clean and bright, and the growth wonderful. The constant use of water on foliage in smoky neighbourhoods causes the leaves to suck in the smoke and soot, and they are worse than they would be if water never came near them; at least that is his experience, and I give it for what it is worth.

And now as to selection. My brother formerly had all the best varieties, but many would not live; however, some of the very best fortunately stand his climate, and these do very well, notably Mdle. Eugénie Verdier. I have been delighted with this lovely Rose in Yorkshire, also my particular pet "the Baroness." Marie Baumann, Charles Lefebvre, and Louis Van Houtte all do well there; and Général Jacqueminot and Duke of Edinburgh grow like weeds and bloom like Daisies. La France is sometimes good, but she has too much of the China or Tea Rose to do well in the north. Edward Morren does splendidly there, and many others too numerous to mention here.

In conclusion I am convinced that there is no part of England where an ardent lover of the Rose may not cultivate with confidence the queen of flowers, and although as a rule the blooms come too late for the great shows, yet they are in time for the autumn exhibitions.—WILD SAVAGE.

### ALL THE YEAR ROUND LETTUCE.

My garden soil is very light and thin, and the subsoil is gravel, and has not received more than six hours' rain during the past three months. Vegetables are consequently very scarce, and the greatest difficulty is experienced in meeting the demands of the kitchen. Lettuces have "piped" for seed before being half ready for cutting, and I should not have been able to produce salads but for the variety above-named, which has been the only one to "heart" under the extreme heat and drought. I can now cut excellent Lettuces of this variety, while three other sorts growing on the same plot of ground are

worthless. I think this fact worthy of being mentioned, as the information may be useful to others residing in dry districts.—J. B. S., *Clapham Park*.

### THE FLOWER GARDEN AT BISHOPSTOWE.

THIS flower garden is effective, yet simple is its design and the mode of planting. The designs of many flower gardens are so elaborate that the beds can only be formed and their ornamentation carried out by those trained in the advanced school of flower gardening. The flower garden at Bishopstowe, on the contrary, can be "laid down" by anyone who can describe a circle and draw a few straight lines. It is also suitable for being carried out on a large or a small scale. At Bishopstowe it is on a large scale, and the effect very imposing. We have figured only a portion—one-half—of the plan. The design may be carried out to any length desired, the beds being planted in duplicate. The plants, as a rule, are easily raised in large numbers.

*Iresine Lindenii* associates well with *Golden Feather*, and

up its first shoots as fine as a horsehair, and these are very easily damaged to the ruin of the plant. It is said to be particularly partial to gravel.

I would advise "D., Deal," to plant some on a gravel walk or drive if he can conveniently do so, and in different aspects, and should the summer be particularly dry to water it occasionally (I have left mine unwatered as a test), but, above all, to protect the tender shoots from being hoed-off or destroyed.—H. C. RIPLEY, *Minster Lovell, Oxon.*

SOME years since when travelling in Scotland I was greatly struck with the plant, and on my return I endeavoured to obtain it, but was assured that it would not grow in this part of the kingdom, every attempt to acclimatise it having failed.

In May last a friend brought me a root of the coveted *Tropæolum* from Ayrshire, and I had it planted in a sheltered nook exposed only to the west with a wall at the back, and the root of the plant is protected from the extreme heat of the sun by a piece of coarse zinc wirework, into the meshes of which a few green twigs are loosely interwoven. The ground is kept

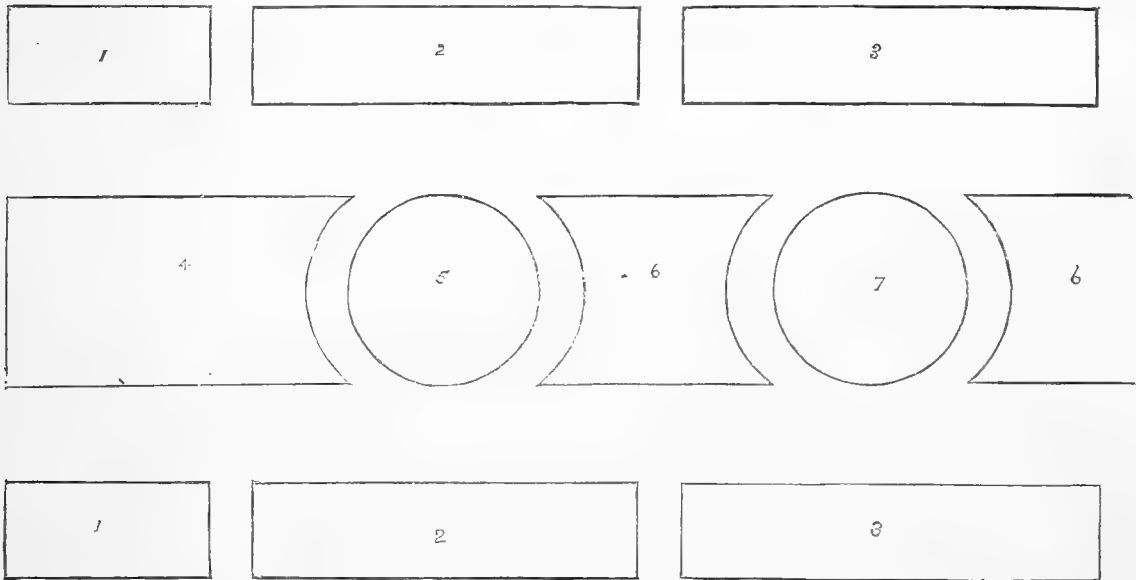


Fig. 13.—BISHOPSTOWE—PLAN OF THE FLOWER GARDEN.

#### MODE OF PLANTING THE BEDS.

- |  |   |   |
|--|---|---|
| 1, 1, Centre, <i>Iresine Lindenii</i> , a band of <i>Golden Feather</i> , and edged with blue <i>Lobelia</i> . | 3, 3, Centre, <i>Purple King Geranium</i> , edged with <i>Golden Feather</i> .                                  | 6, 6, Centre, <i>Vesuvius Geranium</i> , edged with <i>Tagetes signata pumila</i> .   |
| 2, 2, Centre, <i>Flower of Spring Geranium</i> , edged with <i>Iresine Lindenii</i> .                          | 4, Centre, white <i>Geranium</i> , surrounded with scarlet <i>Geranium</i> and edged with <i>Golden Thyme</i> . | 7, Centre, <i>Dracena indivisa</i> , surrounded with <i>Euoymus radicans variegata</i> , edged with a double row of <i>Echeveria secunda glauca</i> . |
|  | 5, Centre, <i>Coleus Verschaffeltii</i> , edged with <i>Polemonium caruleum variegatum</i> .                    |   |

the blue *Lobelia* surrounding the *Pyrethrum* is always agreeable. The *Flower of Spring Geranium* and the *Iresine* are also extremely effective, and especially so is the combination of the two plants, *Coleus Verschaffeltii* and *Polemonium caruleum variegatum*. This design is worthy of attention at this season for propagating plants for future displays.

### TROPÆOLUM SPECIOSUM.

IN answer to my friend, "D., Deal's," inquiries, allow me to say that *Tropæolum speciosum* is growing in perfection at Laggan House, Maidenhead. I should think, therefore, that it would grow in Kent. I have seen it in perfection in Perthshire, Selkirkshire, and Roxburghshire, where cold and frost is keen enough for anything. I have a plant established against the wall of this house, due south, in the gravel drive. I brought it from Scotland at the end of June last year. It has never been watered, but has suffered a little from the extreme heat and drought which we have had here for some time.

It has been found difficult to establish at gentlemen's houses in Scotland as well as in England; whilst, perhaps, it was growing in luxuriance at that gentleman's lodge, simply, I believe, because it was let alone at the cottage, but destroyed by frequent hoseings, rakings, and weedings at the gentleman's place. The root is like pieces of round macaroni. It throws

constantly moist by frequent waterings. The plant is now in a perfectly healthy state; it has made a growth of nearly 4 feet, has thrown-up suckers, and the upper branches are now covered with flower buds.—E. L. P., *Richmond, Surrey*.

### CALANDRINIA UMBELLATA.

IN the wild race of the horticulturist after novelties, good old things far more worthy of his attention and care are too often heedlessly passed over or altogether ignored. Here is an instance of it. Where in flower ground or in rockwork do we meet at this season a bed or patch of *Calandrinia umbellata*? Echo answers, Where? and yet for striking effect in either situation we scarcely know anything to equal this lowly but dazzlingly brilliant little plant, as it spreads its umbels of lovely flowers in the full blaze of a July sun. If we were to take at this season, and on a fine sunny day, an admirer of hardy herbaceous plants into a choice and most extensive collection of his favourites, and that among the said collection was a patch of *Calandrinia umbellata*, we firmly believe it would be the first to arrest his eye and challenge admiration. We should be glad to see it more largely availed of for summer decoration. For a few pence seed sufficient to raise any quantity of plants may be obtained, and it is most accommodating as to treatment. It is naturally a perennial, and may be grown and treated as such or as an

annual or biennial. Seed may be sown next month or the following, and the plants allowed to winter in the open well-drained dry beds, to which they have transferred from the seed-bed, or they may be potted into small pots, and kept over in a cold airy house or frame for next season's bedding. Like other Portulacaceous plants, it loves to display its beauties in dry exposed spots, and under strong sunshine. The colour of the flowers, rich purple magenta, is intensely brilliant, and the quantity of colouring matter in the stalk of one of its little flower umbels is quite remarkable. One of them placed in a small glass vase will dye the water of a most beautiful magenta tint.—(*Irish Farmers' Gazette*.)

## ROYAL HORTICULTURAL SOCIETY.

AUGUST 2ND.

On Wednesday the 2nd inst. a special general meeting of the Fellows of the Royal Horticultural Society—a summary of which appeared in last week's *Journal of Horticulture*—was held in the Council Room, South Kensington, "for the purpose of hearing a statement by the President as to the financial position of the Society." The chair was taken at three o'clock by Lord Aberdare, the President, who was supported by the following members of the Council:—Lord Alfred S. Churchill, Mr. Henry Webb (Treasurer), Dr. Hogg (Secretary), Mr. Haughton, Dr. Denny, and Mr. Champion. There was a large attendance of Fellows, and amongst them were the Hon. C. S. Butler, Mr. H. Guedalla, Mr. Grote, Mr. Dyer Edwards, Mr. Liggins, Mr. Barr, Dr. Masters, Mr. Shirley Hibberd, Mr. I. I. Wheble, Mr. S. H. Godson, Mr. Alfred Smee, Mr. Godwin, Mr. Edgar Bowring, Mr. J. Lee, &c.

The President said:—When last we parted in this room, ladies and gentlemen, it was in the hope that through restored harmony by means of a common and united effort we should be enabled to provide a sufficient income for the maintenance and support of the Society. We thought the Royal Commissioners would assist us, and they did make offers of assistance, accompanied no doubt by certain specific conditions. The Commissioners made offers to the Society, giving us, so to speak, three years' grace as to rent, but binding us to have raised, or to exert ourselves to raise, during those three years the subscriptions to the amount of £10,000, which would have been ample for all purposes. Well, animated by the appearance of restored good feeling on all sides, we exerted ourselves to the utmost to raise the subscriptions to the amount of £10,000 annually; but I now very much regret to have to state that the result has not answered the expectation we had when last we met, or the hopes we certainly held out to the Fellows. We have received since the beginning of the year about £4500, and we have now in hand only the sum of £1000 to enable us to carry on until the close of the year, and in order to do that we must very materially reduce our expenditure, so that we shall close the gardens without dishonour. Committees have been appointed both by the Royal Commissioners and by the Society, but, unfortunately, they have never met. Well, under all these distressing circumstances we addressed the following letter to the Secretary of Her Majesty's Commissioners of 1851:—

"Royal Horticultural Society, South Kensington, S.W.

July 25th, 1876.

"SIR,—I am directed by the Council of the Royal Horticultural Society to inform you that their efforts to raise subscriptions sufficient for the maintenance of the gardens have failed, and that the amount obtained will not enable them to continue their present expenditure to the end of the year. Under these circumstances they would have been prepared to surrender the lease of the gardens at South Kensington to the Commissioners if they could have done so with propriety and safety to the Society. They are, however, advised that the debenture-holders, whose only security for the payment of their interest is the continued maintenance of the gardens, may object to this surrender, and may take legal measures to prevent it.

"This being the case, the Council have decided upon holding a meeting of the debenture-holders on the 1st August, and of the Fellows of the Society on the 2nd August, in order to acquaint them with the position of the Society, and to inform them that the Society may be compelled in future to abstain from all expenditure on the gardens, and virtually to close them.

"The Council, however, are unwilling to take this grave step without previously informing the Commissioners of their intention to hold these meetings.

"I am also desired to add, that the committee of the Council which was appointed to discuss with the committee of the Commissioners any arrangements for the future which it might be expedient to make, is prepared and desirous to meet your committee on as early a day as possible.—I have the honour to be, sir, your obedient servant, ROBERT HOGG, Secretary.

"Secretary H.M. Commissioners, Exhibition of 1851."

Now that being the state of the case let me say one word as to the cause of it. One gentleman in a very short sentence, yesterday at a meeting of the debenture-holders, suggested that the Society was unable to carry on its proceedings because it did not receive sufficient subscriptions. Well, we unfortunately know it is too true. Since the last meeting—and I will gladly bear testimony to the excellent temper shown by the Fellows on that occasion—the fact has been brought out that there is a very great unwillingness on the part of the inhabitants of this

neighbourhood to subscribe anything to these gardens as long as they are connected with the Horticultural Society. It was only the other day one gentleman assured me he had in his possession some three hundred letters from persons who live in this neighbourhood, in which was expressed their willingness to subscribe to these gardens as soon as their connection with the Royal Horticultural Society was severed. That shows pretty well the state of feeling which exists. Then, on the other side of the question, we are also aware that there is no inconsiderable number of persons who take an interest in horticulture, who hold back from this Society so long as it is connected with South Kensington. They think that the interests of horticulture are sacrificed to those of South Kensington [hear, hear]. Whether that be so or not, this feeling is very strong and deep among many horticulturists, and there cannot be a doubt it has been very much increased by the dissensions of last year [hear, hear]. I think you will agree with me that, considering the position in which the Society is placed, the Council have not called you together one moment too early in order that the affairs of the Society may be placed before you. Indeed, you should have been called together sooner if we had not had a hope that those who suggested this union between South Kensington and horticulture, and who are entrusted with a large amount for the promotion of science and art, would to some extent at least do what they have hitherto done. They have decided. They consider they have given us as much assistance as they can. It is not for me to find fault with their decision, but I tell you plainly you cannot look to them for assistance. Well, then, on the other side, we cannot, with only £1000 in hand, meet the ordinary expenditure of the gardens up to the end of the year. In order to carry on the gardens to the end of the year we must reduce our expenditure. Speaking for myself as a resident, I am not without hope that arrangements may be made with the Royal Commissioners under which some portion of the gardens shall be kept as an open space—an ornamental space. The Society, partly through the substance of the unfortunate debenture-holders, spent £73,000 on the gardens. The Royal Commissioners themselves have spent no less a sum than £63,000, and so it seems to me pretty obvious that there has been £140,000 expended on these gardens. I therefore do not think they will be absolutely destroyed, but that some arrangement will be made between the Society and the Commissioners to keep as much of them as an open space as they think proper. As regards the Royal Horticultural Society, I should be extremely sorry the union between the members should end. I should indeed be extremely sorry it should end. I know many persons connected with the Society who are extremely hopeful that if this connection with South Kensington should be dissolved they can start again on a broad basis. No doubt they might maintain the gardens at Chiswick. There is an increasing interest in horticultural subjects. There are a number of persons who bear strong testimony to the services to horticulture rendered by the Royal Horticultural Society. I do hope, however disastrous may be the end of this union which has now existed some fifteen or sixteen years, it will not be fatal to the interests of the residents of South Kensington on the one hand or of the Society on the other. I sincerely hope it may fall to my lot to make a more cheerful and satisfactory statement on some future occasion [applause].

Mr. S. H. GODSON.—My lord, I rise on the present occasion to submit a resolution to the meeting, and it will be something to this effect, that a committee should be appointed—make it as large as you please—to go through the accounts of the Society, and to discover the amount of money advanced to the Commissioners of 1851 for certain works—earthworks and arcades—which had to be carried out under agreements made with the Society. The fact, my lord, is that this Society has paid £125,000 to the Royal Commissioners, who at the time were in want of funds. All these points connected with the accounts, and the money advanced by this Society, should be made the subject of strict investigation by a committee. As to the present Council I exonerate them from all blame for the position in which the Society is placed. I have asserted nothing which cannot be proved. I then beg to move, my lord—

"That a committee of five Fellows be appointed to go through the accounts of the Society to discover the amount of money advanced to the Commissioners of 1851 to pay for certain works, earthworks and arcades, which the latter had to carry out under their agreements with the Society, and which they were not able to pay for in consequence of their being in want of funds at the time, and which sums are still owing by them to the Society.

"That the committee report to the Council the amount so owing, and that the Council shall then at once call upon the Commissioners of 1851 to refund with interest thereon such sums of money so ascertained to be still owing by them to this Society."

I think if that resolution is agreed to and acted upon it will result in some advantage to the Society.

A FELLOW seconded the resolution, and said he thought there was some truth in what Mr. Godson said. At all events the Society's property at Chiswick had been shamefully misused, so that it was really necessary to have a committee of investigation appointed [hear, hear].

The PRESIDENT.—At the present moment I do not know what is the opinion of the meeting on this question. I assure you there is nothing would give me greater pleasure than to find this large sum was due to us by the Commissioners. I am certainly glad to say we have some claim upon them, but it is impossible for me to hold out any hope of there being a successful result to such an investigation as that which has been proposed. At the same time it is not for us to resist any proposal which comes from the Fellows. I would much rather they were freely given to the Council [hear, hear]. I have been informed that the whole of the arcades were built at the expense of the Commissioners, and you heard, no doubt, of the agreements which were entered into. By the first agreement there was, as a matter of fact, £50,000 spent upon the Society. Then £70,000 was raised by life subscriptions, and in addition there was the sum of £60,000, consisting partly of donations, and that was spent upon the capital expenditure of the Society. Then, on the other hand, the Commissioners themselves having expended their £40,000 sought fresh powers to raise an additional sum of money, and it was in consequence of that the annual expenditure, the rent paid to the Commissioners by the Society, which stood at £2145 per annum, was raised to £2400. With regard to the future, that is a question I should be very sorry to refer to, especially as it is impossible to say what the conditions of the future may be. As I take it, there is no use in referring to what was done with respect to the Society ten or fifteen years ago. Let all that be buried; but I am sorry to say, although I can well appreciate the motives of the mover of the resolution, that I cannot hold out to you the very faintest hope that any good—that any practical result will arise from the appointment of the committee of investigation which has been proposed. I cannot see that it will lead to any useful or practical result. It might do some good with respect to small sums, but as to these large sums referred to by the mover of the resolution, I cannot hold out the slightest prospect of any substantial result—any substantial benefit coming from the adoption of the resolution, which, I have no doubt with the very best intention, has been submitted to you. It is, however, for you, gentlemen, to say how far it meets or does not meet with your approval.

Mr. H. GUEDALLA.—My lord, I take it that we are met here to protest in the strongest manner possible, to protest against these magnificent gardens being closed without an effort—a great effort on our part [hear, hear]. The recommendation submitted to you now is that a committee of the whole house should be appointed in order to have—not a committee of five only, but a mixed committee, composed of horticulturists and residents of the neighbourhood. “In a multitude of counsellors there is wisdom” [hear, hear]; and this committee could very well consider whether we should separate the Chiswick Gardens from the South Kensington connection, and also report upon the nature of the attractions which would be likely to ensure to us an increase of revenue. It is, I must say, a very astonishing thing that a kindred institution to this is able to keep itself above board, I mean the Botanical Gardens, and that chiefly through the influence of Prince Teck. These gardens of ours are totally neglected by royalty [hear, hear]. I am sorry to say that, in consequence of a vote given against the Council some years ago, we turned royalty against us. Why in a learned society like this should we not be received by our worthy President? I should be glad, my lord, to see you holding a reception. I consider you cannot discuss the improvements it is necessary to make in our arrangements until the Fellows are prepared to talk the matter over, and that can best be done by a committee. I hold that we should not, after an existence of twenty-five years, allow the gardens to be closed, especially as, if the matter was calmly discussed, we must eventually get money from the Commissioners. From many points of view it is most desirable that these gardens should be kept up [hear, hear]. For my own part I always had a shrewd suspicion that the Commissioners had ulterior views with respect to these gardens [cries of “hear” and applause]. I think that in conjunction with the debenture-holders—and I think we should cement a union with them—and with the residents in the neighbourhood, and by providing proper attractions we would gain an immense increase of revenue; and if there was any possibility of our working in unison with the Commissioners, through which we would be again favoured by royalty, in a few seasons we should be all right again. Something has been said as to the sum requisite to keep the gardens up to the end of the year; I should like I know what that sum is.

The PRESIDENT.—At the present scale of our expenditure, I think the sum requisite would be about £2000.

Mr. GUEDALLA.—Well, that is a very serious sum of money. I should propose that a committee of nine, composed of the various classes of horticulturists and Fellows, be appointed for the purpose of a general investigation of the accounts and affairs of the Society, and of securing to us these gardens.

The PRESIDENT.—I wish at once to say this. I hope the meeting will disembarass themselves of the idea that there is any desire on the part of Her Majesty's Commissioners to obtain

possession of these gardens. If there is anything they are anxious for in the matter, it is that the Royal Horticultural Society should flourish and fulfil the original intention of its founders; but, as to the possession of the gardens, I can assure you it is not a question with them at all. My belief is that the Commissioners would like to open a sort of square. Now, in a very good-tempered sort of way, a gentleman suggested that the Fellows did not see as much of the President as they desired; but I am informed that only on one occasion was there a reception of royalty, and that was unfortunately in the absence of the President.

Mr. LIGGINS.—I assure you, my lord, I have had the opportunity of being received by his Grace the Duke of Buccleuch.

The PRESIDENT.—Everyone who knows the extreme courtesy of the Duke of Buccleuch must feel what a pleasure it was to have been received by his Grace, but I was told at the Council there was but one attempt made at a “reception.”

Mr. LIGGINS.—I remember the reception by the Duke of Buccleuch as well as I do seeing your lordship to-day, and our most honoured guests were the Prince of Wales and the Duke of Edinburgh.

The PRESIDENT.—Oh, that is quite sufficient. You state to me what you saw, and that is worth fifty other statements which perhaps are only mere rumours.

Mr. GODWIN.—I should like to ask your lordship whether the Council have prepared any definite plan to lay before the Fellows.

The PRESIDENT.—The Council have done their best, and have no further proposal to make.

Mr. GODWIN.—In that case there is nothing further to be done but to appoint a committee and go on with the business ourselves [hear, hear].

The PRESIDENT.—The question before the meeting now really is whether the committee proposed is to be appointed.

Several FELLOWS.—No, no.

Mr. SHIRLEY HIBBERD.—Why should such a committee be appointed? Its deliberations would lead to nothing [hear, hear].

The Hon. C. S. BUTLER.—As the statement made by your lordship evidently expresses the unanimous opinion of the Council I think to appoint a committee would be simply stepping out of the frying-pan into the fire [cries of “hear.”]. I do not think any committee could make a better business of the matter than the Council. The appearance of the gardens is more like that of a cemetery than of the gardens of a horticultural society [a laugh]. They looked as if we were determined to die respectably [laughter]; and undoubtedly it is better to die in a quiet and respectable manner before disgrace is brought upon us [hear, and a laugh]. Therefore to appoint a new committee would be of no earthly benefit [hear, hear]. The only way is to die respectably. Let these gardens be made public gardens, and not have them gardens which must cast gloom and melancholy upon anyone unfortunate enough to go into them [laughter]. It does not appear that your lordship or the Council have any proposition to make to us.

The PRESIDENT.—I have distinctly stated what is the policy of the Council, and, moreover, I have stated that the Council have no feasible proposal to place before the Fellows.

Mr. C. MORGAN.—One great result, my lord, will be obtained from what we may call the crisis which has taken place, and that is that we shall feel it incumbent on us to make a great effort to keep these gardens, at least for the use of the inhabitants of the neighbourhood. I feel that some further exertions should be made by us, and if nothing better is submitted to us I should certainly vote for the suggestion of the honourable proprietor to appoint a committee.

Lord ALFRED S. CHURCHILL.—The Chairman has explained to you the financial position of the Society. The ordinary expenditure of the Society has hitherto been something like £5000 and over or £6000. You have got £1000 left, and of course it will be the object of the Council to spin that amount out to the end of the year as well as we can; but even then, in order to keep the gardens going, we must make a great reduction in our expenditure. I may say that the gardens will not be actually closed [hear, hear], and that one entrance—one only—will be kept up. The expenditure on the gardens will be reduced to a minimum—of course it must be. I should like to observe that at the time your Chairman made an appeal to you some months ago our average income amounted to about £7000, or indeed I may say a little over. By the noble Chairman's appeal it was proposed to raise the income of the Society to £10,000 a-year in accordance with the arrangements made with the Commissioners, and although the meeting to which I refer was strongly in favour of this course, there was great difficulty in even attempting to carry out the proposition; and for this reason—that when it came to the point nobody could be found willing to go round to the houses, because there had to be made a sort of *ad misericordiam* appeal, and the result was that many members left the Society and sent in their resignations. I was induced to join the Society, but I joined it from a horticultural point of view, and I thought at the time that the period had arrived when an absolutely strong alliance would be cemented between horti-



culture and South Kensington. At the present moment our position is this: We have informed the Commissioners that we are unable to go on, that our expenditure must be reduced, and that we are willing to surrender the lease of the gardens to the Commissioners, provided we can do so with honour to ourselves [hear, hear], and in a manner in some way satisfactory to the debenture-holders who are by far the most pecuniarily interested persons in the transaction. If the Commissioners would only come to terms with the debenture-holders the Council would surrender the lease. We are willing to do so, no matter what it costs [hear, hear]. What is our object? It is to start again with Chiswick, with this difference—that we should be determined to make the Society an absolutely pure horticultural society instead of a local one [applause]. I wish to point out that we have got no definite resolution to lay before the meeting, as we are waiting for the Commissioners to settle with the debenture-holders. If they do not do so, we who spent the money will be drifted into bankruptcy, and then no one will get anything at all; and all others connected with the Society will suffer unless pressure is brought to bear upon the Commissioners to settle with the debenture-holders.

Mr. GUEBALIA.—We must have a meeting to propose our dissolution.

Lord A. S. CHURCHILL.—We cannot propose our dissolution until we find what the Commissioners say. We must call you together again.

Mr. ALFRED SMEE.—I quite agree with Lord Alfred Churchill that there never was wanted more than now a national horticultural society [hear, hear]. It was never more needed than now that if the Horticultural Society is to be maintained in its proper position we must dissolve our connection with these gardens. We have something like 17 or 20 acres. How are we to dissolve our connection? It is quite true that since we have had this amalgamation the whole affair has been an entire failure. I really do not blame anyone for it. The experiment was tried with the best of intentions, and the Commissioners thought that horticulture exhibited within these buildings would constitute this a useful place of resort for the residents of the neighbourhood. That has been an entire failure, and I am rejoiced to find the Council are determined to take those steps by which we may act as a national horticultural society [applause]. Without horticulture there can be no horticultural society [hear, hear]. The sooner we are dissolved from this connection the better. The Commissioners asserted that a large amount of money has been spent on the Society. Well, the money was spent upon the decoration and ornamentation of buildings around us. What would they be only for them? but are we to pay for these stucco figures? What have they to do with horticulture? I do say that wherever these gardens may be, an important obligation devolves upon us—viz., to keep up a national horticultural society [hear, hear]. In every country in Europe there is such a society, and this is the only one mixed up with nurserymen. I hope and trust, my lord, you will take every possible means to have this question settled by severing our connection with South Kensington [hear, hear].

A FELLOW.—We all knew that when we laid out our money there was nothing here but gravel. The value of the gardens has been doubled and trebled. It was very hard on the debenture-holders that their money should have been laid out for the benefit of the residents in the neighbourhood.

Mr. LIGGINS.—It is very hard, no doubt, that those who live in this neighbourhood should be deprived of the use of these gardens and of attending the flower shows of the Royal Horticultural Society, but I can look back to bygone times when this was purely and simply a scientific Society. It was to revivify the Society that the union was brought about. That being the case, I think it only requires a large amount of money to come in to enable a really good management to make the Society prosperous. Indeed it was prosperous and successful pecuniarily up to a short time since. What is the reason that royalty never shines upon us? It was thought we should see the Prince of Wales amongst us upon his return from India. He would have got a hearty reception from us, but he has not come. It cannot be that His Royal Highness has any dislike to the Horticultural Society, or that he has been surfeited with the flowers of India. We ought, at any rate, to make a great effort to save our position, and therefore I think a committee ought to be appointed.

The PRESIDENT.—I now put to the meeting the motion that a committee be appointed to go through the accounts.

The resolution was then put, and lost by an overwhelming majority.

The Hon. C. S. BUTLER.—My lord, I am an original shareholder of this Society which I have seen gradually decline, but for that result I do not blame anyone. As to think of canvassing people, no doubt friends to the number of twenty, thirty, or forty might be got, but then hundreds more would not set matters afloat. It takes thousands of people to meet the expenses of the Society, and it will take more than any amount of canvassing will do to get back that which we have lost. I am

really of opinion that horticulture will profit by the dissolution of the connection which is now contemplated. It is, therefore, that with pleasure I beg to propose this resolution:—

"This meeting approves the policy of the Council in endeavouring to effect a separation of interests between Her Majesty's Commissioners and the Royal Horticultural Society upon equitable terms with the debenture-holders and life Fellows, and requests the Council to urge an early settlement with Her Majesty's Commissioners."

Mr. SHIRLEY HIBBERD.—I beg to second that motion, and I do so in the hope that it will bring about a speedy dissolution of the arrangements between this Society and the Commissioners [hear, hear]. Over and over again it has been proved that oil and water will not mix unless some medium be combined with them. In our case the requisite medium wanting was the medium of sympathy, which would have brought the two classes together; but we have found no such medium, and so the conflicting elements can never be united [hear, hear]. We must take the world as we find it. For my own part I am not disposed to blame the inhabitants of this district for not supporting the gardens, and I think it would be as well not to cast any blame on Her Majesty's Commissioners. The best thing we can do is to gather up our traps and take our departure to some more congenial clime [hear, and laughter]. There is no use in us talking of canvassing or appealing to royalty. This Society, if it is to live, must live upon its merits [applause]. We have had the experiment of connection with the Commissioners tried. We have been well represented on the Council [hear, hear]. In the midst of many difficulties which have arisen we have had some exciting and unpleasant debates in this room, but from first to last we have been well represented. From first to last our Council must have had much more work and anxiety than any body of gentlemen would undertake except by being well paid for [hear, hear]. They have done their best in the interests of the Society. There is but one course open to us now, and that is to see once more—believing in our horticultural functions, in their truth and entirety, and trusting to what the process of time may effect—to see, I say, what we shall do in the future [hear, hear]. As to the effecting a separation, that is a matter this meeting cannot settle. It is for the Council to lay down proposals under which the separation of interests would be effected, and therefore, my lord, we are bound to impose this task upon your lordship and the Council. Certainly there is no glory to be gained out of it. I feel assured our Council will make the best terms possible to have the debenture debt cleared away [hear, hear]. Let us see that disposed of honourably. It is a happy circumstance that in other respects the Society is not in debt. There is not a penny owing by it [applause]. I feel assured that so soon as we are removed from South Kensington the Society will become really useful to the science of horticulture generally [hear, hear].

The PRESIDENT.—The resolution proposed so exactly, so precisely, represents what the Council have been about for the last two years without success. The resolution expresses exactly what we wanted to do when we saw it was not possible to gain sufficient means to support the gardens. We saw it was necessary a separation should take place, and we were very anxious in addressing the letter read for you to the Commissioners that the two gardens should be separated. We took legal advice upon the question, and found separation could not take place without the dissolution of the Charter, and that that dissolution could not take place as long as the debenture-holders had a lien upon the gardens; so that unless the debenture-holders are satisfied I do not see how a legal termination can be put to the Charter. I do not at all see how that is to be done. At the meeting of the debenture-holders held yesterday in this room a committee was formed, but with what result I cannot say. If the debenture-holders pressed their claims upon the Commissioners, and some equitable settlement was come to, the Society might start upon a new basis; but there is at present a serious legal difficulty in our way. It would be just possible for us to accept the resolution before the meeting, but I cannot hold out any hope that we can do more than we have done. We have no objection to the resolution because, as I said, it represents our policy exactly. I think we have done as much as we can do, and I assure you I should rejoice were I able to say we possessed more hope than we have of a successful result to our efforts [cheers].

A FELLOW.—Will your lordship let us know what is the proposition of the Council?

The PRESIDENT.—What is now before you represents it [applause].

The FELLOW.—Then is the resolution satisfactory to the Council?

The PRESIDENT.—I have no objection to receive it, but I do not hold out any hope of action being taken on it.

Lord A. S. CHURCHILL.—One thing the resolution may do, and that is to strengthen our hands [hear, hear].

Mr. WM. HAUGHTON.—There is one fact which ought to be kept before the minds of the Fellows, and that is—if you desire to abandon these gardens it will be necessary to get the consent

of the debenture-holders to do so. Without that consent we cannot stir one step, and even if we could it is open to doubt whether the debenture-holders could not follow us, as far as their claims are concerned, to Chiswick gardens. That is the legal position of the question. As to practical action, the Council do not see their way to go to the Commissioners and ask them to take any. The Royal Commissioners have positively declined to take upon themselves the burden of the debenture debt. The negotiations tending to that result have fallen through, and whether they will be re-opened or not we cannot say, but under the circumstances by which you are surrounded the first thing you have to do is to make up your minds either to keep these gardens or to lose them altogether [hear, hear]. One thing is certain, that if you want to keep the gardens you must put your hands in your pockets, or you must give a guarantee to provide for the expenses of the year 1877. With the sum of £4500 actual subscriptions we cannot go on with the maintenance of the gardens for next year, and you should understand that the meaning of a guarantee is that each person puts down his or her name for a certain sum, which he or she guarantees to be responsible for. If it should unfortunately happen that no more new subscribers should come in, the guarantors for the sum of £4500 would have to pay the whole of it. If you really do wish to appoint a committee, do not appoint one to investigate matters which have been looked into over and over again [hear, hear], but appoint one whose duty it will be to see how you can raise the money to keep the gardens next year. If that is not done we must only shut up the gardens.

After a short desultory conversation the resolution was carried with a couple of dissentients, and amid some cheering.

A FELLOW asked the President how it was proposed, in case of dissolution, the interests or tastes of the two classes of Fellows—the horticultural and the resident, should be consulted?

THE PRESIDENT.—It will, I believe, be open to the two portions of them to take two different courses—that is to say, the horticulturists proper can form themselves into a society for the promotion of horticulture, whilst the inhabitants of this neighbourhood can place themselves in communication with the Commissioners and see whether these gardens cannot be kept up. It seems to me that is the only course to be pursued by either party. I should mislead you if I led you to think that by anything we could do we could get the inhabitants of this neighbourhood to do anything more for the maintenance of the gardens. For myself I know a number of gentlemen who have done their best in the business, but the disaffection and dissatisfaction are so deeply seated that there is no chance of anything further being done. We are doing the best we can in closing this connection, to close it not with discredit [cheers]. In the meantime all we can do is to keep the Horticultural Society afloat by our own efforts and those of the Fellows. As far as I am concerned myself I am largely interested in this locality; but quite apart from that I shall be most anxious to do all I can to keep these gardens for the benefit of the neighbourhood, which would suffer a great deprivation were they closed [loud cheers].

MR. S. H. GODSON.—Gentlemen, I rise to propose a vote of thanks to our Chairman for his able conduct in the chair as our President, not only on this but on many former occasions, and with respect to whom it is difficult to say whether his ability or great courtesy is the more deserving of admiration [cheers].

MR. BATEMAN.—I have very great pleasure indeed in seconding the vote of thanks, and I do not think any man in the kingdom could have occupied the position of Chairman of this meeting more dispassionately, more courteously, or more thoroughly honestly [cheers].

The motion was put by the mover, Mr. Godson, and carried with expressions of hearty assent.

THE PRESIDENT.—I thank you very heartily, the more so because it is not very often that a society on the point of dissolution gives to its President a vote of thanks. It is, I can assure you, very pleasing to me that it is so. We have exerted ourselves to the utmost to prevent this catastrophe, and if we have failed ours is not the fault [applause].

Thereupon the meeting terminated.

### FLOWER SHOW AT HEWORTH.

FINE weather only was required to make the third annual exhibition of the Heworth Horticultural Society, which was held on the 2nd inst., by the kind permission of Mrs. Starkey in the grounds of Tang Hall at Heworth near York, a complete success. Through the strenuous and untiring efforts of Mr. R. H. Feltoe, the Honorary Secretary, this Society has gained during its short existence a foremost place amongst local shows, and although last year's show was one of the most successful held in this district, yet it is thoroughly eclipsed by the exhibition of this year. Mr. Feltoe and the Committee gathered together a numerous and excellent collection of plants, flowers, fruits, and vegetables. The entries were about double those of 1875, and

comprised 118 classes, all of which, with the exception of about thirteen, were fully represented, in many instances there being as many as five and six competitors in each class. The marquee was crowded in every part, some of the plants being arranged under the higher stands. All the plants and flowers shown were for competition. There was a splendid display of plants, and occupying a conspicuous position in the centre of the tent were a number of beautiful Ferns. For the President's (Captain E. C. Starkey's) special prize for collections of eight exotic Ferns there were four entries, each of which was excellent. Mr. R. E. Noble, Clifton Lawn, York, obtained the first prize, and Mrs. Starkey of Tang Hall was awarded the second. British Ferns were also a capital show, as were also the Lillium lancifolium. The Geraniums were a very fair lot, the double-flowered Geraniums being especially worthy of commendation. In the Coleus classes there were many specimens exhibited, the colour of which was richly shaded, especially that of those belonging to Mr. Noble, which were very beautifully tinted. Decorative plants were also good. The specimens of cut flowers were numerous, and altogether the show in this department was most creditable. There was only one collection of eighteen Dahlias in the marquee, but this was fairly good for the season. The Roses formed an excellent show. Taken altogether the different varieties of fruit were well represented, while vegetables were of a really excellent description. The exhibits forwarded by the cottagers were creditable throughout, and if they excelled in any portion more than another it was amongst the vegetables.

### A WEST RIDING FLOWER SHOW.

"LOVE surmounts all difficulties." Such was my conviction as I saw the really wonderful display of flowers brought together at the Brighouse Horticultural Society's annual Show. The difficulties of cultivation are so great in that district that nothing but the most persistent labour, inspired by the most ardent love, can overcome them. Smoke day and night proceeding from hundreds of mills, poisonous vapours from numbers of chemical works, a naturally cold temperature, long winters, prolonged often till the middle of June—all these combined and many others make the pursuit of horticulture a most arduous one. And yet I know of no district where flowers are more loved, and where better results are obtained, at least from plants under glass.

The exhibition of stove and greenhouse plants at Brighouse, both in the open and amateur classes, was equal to anything I have yet seen, except at the London, Exeter, and Taunton shows. Mr. Joseph Fox of Clayton near Bradford took the first prize for eight splendid specimens. His *Dipladenia amabilis* and *Allamanda Hendersonii* reminded me of those staged by Messrs. Lucombe & Pince at Exeter. *Vinca oculata*, too, was shown wonderfully well, and also *Stephanotis floribunda* and *Bougainvillea spectabilis*. In the amateur classes some very fine specimens were shown. I was talking to the man who won the first prize for six stove and greenhouse plants, and asked him whether he was not a gentleman's gardener. "Nay, I am nobb't a tinner." "A tinner?" "Yes, I live at Mirfield, in a little place near the station." His name is James Manchester, and from a very small greenhouse he brought *Stephanotis*, *Dipladenia amabilis*, *Vinca oculata*, and *Allamanda Hendersonii*, which were wonderfully good. All honour to him and such as he, who, instead of spending their money in the public house, save it up till they can build a little glass house which will defy the climate of the north and enable them to have flowers all the year round.

I was very much surprised to see several good collections of Hollyhocks staged, for the red spider had made such raids on these flowers last year that many nurserymen were unable to send any plants out this spring; but here we had these flowers shown in perfection. *Verbenas*, were, however, very weak. After seeing Mr. Charles Turner's marvellous blooms at South Kensington it was hard to believe that the trusses exhibited here belonged to the same class of flowers.

The vegetables were very fair, but were not so good as I expected to see. The Committee accepted any number and kind of extra prizes, and a wonderful miscellaneous collection of articles these were. Among them I saw a whole salmon and two pieces of meat exposed all day in the tent (fortunately the weather was cool), two rocking chairs, a dozen of beer, a piece of cloth, a box of cigars, &c.

The arrangements were much better than last year, and the crowd was enormous. It did me good to see the crowds crushing round the flowers, and to listen to their original remarks was great fun. I never yet saw so enthusiastic a multitude, and the amount of squeezing the people submitted to in order to see the flowers would have finished-off most of our southern friends. The receipts must have been great, and I only hope that next year the Committee will spend more money in prizes for flowers and less in cups for horses, and brass bands. The Committee of course know their own neighbourhood best, but I am confident

from the enthusiasm which the visitors evinced for the flowers that the Brighthouse Horticultural Society could stand on its own merits, and not be what it is now—an *olla podrida*.—WYLD SAVAGE.

### MOMORDICA BALSAMEA.

THE above is the name of the specimen submitted by "D. T. S.," and of which we are able to give a figure. It is as our correspondent suspects that the plant has no particular claims to beauty, and is seldom to be found in this country except in botanical collections. It is a stove plant belonging to the family of Cucurbitaceæ, and grows freely in ordinary garden soil in a well-heated structure. We cannot give better information in reference to the Momordicas than the following, which is quoted from Dr. Hogg's "Vegetable Kingdom":—"Momordica balsamea, or Balsam Apple, grows in Syria, and is famous for curing wounds. The unripe fruit is infused in

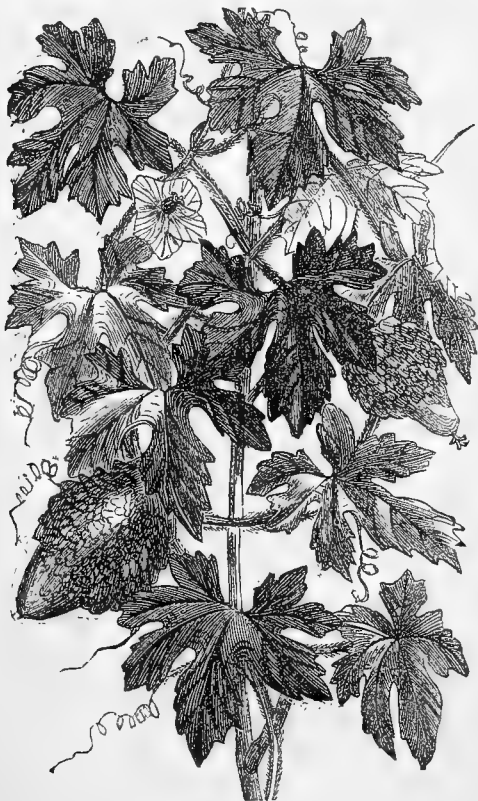


Fig. 14.—*Momordica balsamea*.

sweet oil, and exposed to the sun some days till it becomes red. This, applied on cotton to a fresh wound, is esteemed by the Syrians next to Balsam of Mecca. The plant is also used to form arbours. *M. mixta*, called in India Gol-kakra, produces a large, red, and thorny fruit, containing a yellow insipid pulp, totally inert as a medicine, and is occasionally used for food in Bengal. *M. echinata* produces a round fruit covered with bristles, the size and appearance of a large hairy Gooseberry. It is sometimes seen in Covent Garden under the name of Gooseberry Gourd, and is pickled when green, as Cucumbers are, in vinegar."

### THE HAILSTORM RELIEF FUND FOR NURSERYMEN AND FLORISTS.

An energetic movement has been set on foot towards raising a fund for the relief of the necessitous nurserymen and florists, sufferers by the violent hailstorm of Sunday evening, July 23rd. An influential and thoroughly representative Committee has been appointed, of which Mr. John Fraser, Lea Bridge Road, is Chairman; Mr. Shirley Hibberd, Stoke Newington, Treasurer; and Mr. Richard Dean, Ealing, Secretary, and they are now engaged in issuing a circular to the whole of

the nursery and seed trades, asking for subscriptions to the fund. The circular sets forth that the destruction of glass erections, and stock in the form of plants and trees, has been extensive and complete, that many persons in a small way of business are actually deprived thereby of the means of subsistence, and the Committee state that the sum of £4000 will be required to meet the many pressing demands made upon the fund.

Towards this sum Messrs. Veitch & Sons, and Messrs. Hurst and Son, subscribe £25 each; Messrs. Jno. Fraser, and W. Bull, £10 10s. each; while Messrs. B. S. Williams, E. G. Henderson & Son, Nutting & Sons, T. S. Ware, H. Low & Co., Jno. Wills, P. & S. Kay, H. Stroud, Parsons, Rowbridge, Jno. Turtle, Jno. Matter, J. Sweet, Oddy, and W. E. Gumbleton, subscribe five guineas each; and there are many subscribers of two guineas and one guinea, as well as smaller sums. Already over £200 has been subscribed, and the Committee confidently appeal to all charitably disposed persons for assistance under this grievous calamity. Inspections of the damage sustained in most cases have been made, and the results prove much worse than has generally been conceived.

### ASPECTS OF NATURE.—JULY.

"The mead is our study, and Nature our book."

In the early weeks of spring, when the first flowers come to deck the ground with beauty and brighten the bare bosom of earth with blossoms, they are, we might say, petted and made much of. Everyone knows them by name; but as the season advances, and the woods and fields, the hillsides and depths of the valleys, become the habitats of more numerous varieties of flowers, they are not sought out so eagerly, nor are their beauties so well known. They appear in such profusion that all, save the botanist and enthusiastic lover of nature, pass by them, looking upon them only as part of the full development of the floral season, but scarcely knowing one from the other, nor ever dreaming of their marvellous beauty when closely examined. July is indeed the month of the full blush of Flora's matronly charms.

"A gracious mother art thou, kind July,  
Thy lap all laden with most precious things;  
Earth seems to mingle with the distant sky  
That sheds a hallow'd light upon thy wings."

In the deep shade of thickly planted woods the stately Foxglove uprears its tapering point hung with its many-speckled bells, which send a fairy tinkle forth with every breeze.

In favoured spots in south Devon and many similar places the Flowering Fern grows near at hand, and attains a size and beauty that well entitle it to the distinctive title of *Osmunda regalis*. Not only are the woods full of greenery, but the heaths and commons display their greatest wealth of waving foliage and gorgeous blossom, for now in some districts the Gorse is brilliant with flowers, and their honey-laden nectaries invite the visits of hundreds of busy bees; while the Broom, scarcely less brilliant in hue, will bloom not only on wild lands, but find a resting-place in the clefts of rocks and the mortar of old ruins, where it grows as luxuriantly as its rival the golden Gorse on rich common lands.

While Scotland displays the Broom "yellow and bright as bullion unalloyed" on her hill sides, and the purple of the Heather on her moors, sunnier climes cannot rival the brilliancy of her summer landscape, though the fields be clothed with the gorgeous flowers of tropical vegetation.

"Their groves of sweet Myrtle let foreign lands reckon,  
Whose bright beaming summers exalt the perfume;  
Far dearer to me yon lone glen of green Bracken,  
Wh' the burn stealing under the long yellow Broom."

"Far dearer to me are yon humble Broom bowers,  
Where the Bluebell and Gowan lurk lowly unseen,  
For there lightly tripping among the wild flowers,  
A listening the linnet, oft wanders my Jean."

But with all its beauty and usefulness the Broom must bow before the Furze in respect of colour, perfume, and the amount of honey secreted in its blossoms; and the enthusiasm of the great Linnaeus may well be understood when he saw this latter on Wimbledon Common, as it was some years since, a blaze of gold in a July sun. The Heath is generally associated with the Highlands of Scotland, the home of the grouse; but our own island has many spots where the beautiful purple carpet is spread out during the whole of the autumn season. The Yorkshire wolds, the Cornish moors, and many other parts are scarcely less lovely than the lake and mountain scenery of the sister land.

At this season every spot of uncultivated ground has its complement of vegetable life—its display of bright plants. Those by the meadow and the waterside are less brilliant, perhaps, in colour, but they bear a multitude of flowers which, taken individually, display none the less the wondrous works of creation and the Infinite Wisdom which has created each for a purpose and a place. Among the most striking objects of meadow scenery during the month are the giant Reeds which fringe nearly every stream and river bank and bend their plumed heads proudly over the water. In similar places scarcely less conspicuous, but certainly not so elegant in appearance, are the Teazles, which stand up boldly, bending to neither breeze nor storm; and holding a supply of water in the cup-like base of their leaves, they almost defy the droughts which often dry up the sides of the stream or ditch on which they grow, and leave the water but a silver thread between the parched banks.

Beneath the shade of the Reeds the exquisitely scented Meadow-sweet is generally to be found, less brilliant in colour than the Creeping Jenny and azure blue Myosotis, which are still to be seen beneath the umbrageous shade of the many varieties of aquatic plants fringing the banks of streamlet and lake. The Meadow-sweet is dear to everyone, for its delicate cream-coloured flowers seem to have caught the sweetest perfume of the new-mown hay so recently cut in their vicinity. But perhaps the most striking of all our native weeds is the giant Hemlock, which is at the present time in the very zenith of its beauty, its magnificent deeply lacinated foliage rivaling the rich leafage of tropical forests, and its large handsome umbel of white flowers being in keeping with the size of the leaf.

Along the hedgebank the wild Bryony twines its graceful glossy foliage up the stems and branches of Hawthorn and Briar, and these display its pale green blossoms, which are scarcely noticed nor give any promise of the handsome cluster of berries the plant will display later in the year. A long season of dryness during this month fully realises the poet's description—

"Deep to the root  
Of vegetation parch'd, the cleaving fields  
And slip'ry lawn an arid hue disclose.  
Echo no more returns the cheerful sound  
Of sharp'ning scythe."

The cattle also feel the oppressive heat, and

"On the grassy bank  
Some ruminating lie; while others stand  
Half in the flood, and often bending, sip  
The circling surface. In the middle droops  
The strong laborious ox of honest front,  
Which incompassed he shakes; and from his sides  
The troublous insects lashes with his tail,  
Returning still.  
In rueful gaze the cattle stand."

In Derbyshire and the northern counties the children now go forth in merry parties, can in hand, to gather the fragrant harvest of wild Raspberries, which, if not so plentiful as that of the Blackberries they will seek later on, is fully appreciated by the careful housewife, who finds the luscious fruit no mean addition to the produce of the Currant and Gooseberry bushes of her garden.

So long is the list of wild flowers of July that we cannot essay even to enumerate them, but the wild Clematis or Traveller's Joy deserves a word, covering as it does in many places every hedge in our southern and midland counties, growing often in close companionship with the wild Hop. They garland together the quickest fence and stems of hedgerow trees, and form a graceful feature in the wayside landscape. Clematis, besides its common name of Traveller's Joy, bears also that of Virgin's Bower, both being accounted for by Gerard in the following manner:—"Traviler's Joie is this same plant termed as decking and adorning waies and hedges where people travell; Virgin's Bower, by reason of the goodly shadowe which they make with their thick bushing and climbing, as also for the beantie of the flowers, and the pleasant scent and savour of the same; and by country folks 'Old Man's Beard,' from the hoary appearance of the seeds, which remain long on the hedges."

The corn fields, which are now so golden in the sun, are full of bright flowers, which we shall be better able to identify when the harvest is cut and the many-coloured flowers rear their heads above the stubble; but in the woods, and even in shady spots on heath and moor, the gentle Woodruff may still be gathered, though none, save those acquainted with it, would stoop to gather so small and inconspicuous a flower. Our

grandams, more versed in Nature's lore than we, never neglected to gather a store of this plant for the sake of the perfume it emits when pressed, a perfume which is only perceived after the plant has been gathered.

The Ferns are now in full beauty, the common Bracken filling up the woods and covering many a common and wild expanse, forming a covert for the hare and the timid young of the fallow deer.

"Ferns that grow the stream beside,  
Where the leveret loves to hide,"

are among the most elegant and graceful forms of native vegetation;—but Ferns are as various in their habitats as they are in their beauty. We have the graceful and well-marked Beech Fern and the broad Hart's Tongue; the elegant Maiden-hair, which affects moist places and finds a congenial home at the fall of "The Lady's Well" on the borders of Dartmoor, and the common Polypody which grows in every county, and is most frequently seen near the habitations of man, on old walls, and the broad banks that divide some fields, and finds a home in the fissures of old trees, Hazel or Thorn stumps, and similar places.

Although less noticeable and less sought after than the Ferns, the numerous Mosses now carpet as with a velvet pile the damp woods, and clothe with verdure every moist spot where they can find a resting place. During the dewy eves that generally mark the close of warm July days the merry chirrupings of the nimble grasshopper are heard in place of those songs with which in spring the birds were wont to make night musical. Nor does the grasshopper sing a vesper song only; in the early morning before the sun has risen the merry insect is abroad to greet the wakening day with his cheerful notes.

"The poetry of earth is never dead;  
When all the birds are faint with the hot sun,  
And hide in cooling trees, a voice will run  
From hedge to hedge about the new-mown mead.  
That is the grasshopper! He takes the lead  
In summer luxury; he has never done  
With his delights, for when tired out with fun  
He rests at ease beneath some pleasant weed."

The lady-birds are now engaged clearing the Hop vine of the aphides which so generally infest the plant. These pretty little spotted insects seem, like the robin, to bear a charmed life, for although children will sport with, they hardly ever harm them; and in France lady-birds are looked upon as sacred to the Virgin, and have gained from this fact the name of "Our Lady's Sheep"—indeed, the French peasants are so careful of them that they will stoop to put them aside rather than run the risk of trampling on them. During the summer of 1868, when the Hop plants were terribly blighted, a most wonderful swarm of lady-birds suddenly appeared in the fields and surrounding districts; so numerous were they in parts of Kent that they could be swept up by thousands. Thus we see throughout creation wherever an evil exists Nature provides the remedy, and through every stage of life one creature lives by the destruction of another.

The study of Nature in all her aspects is of absorbing interest, and the universal charm of rural life and scenes is delightfully touched upon by Cowper:—

"'Tis born with all. The love of Nature's works  
Is an ingredient in the compound man,  
Infus'd at the creation of the kind.  
And though the Almighty Maker has throughout  
Discriminated each from each by strokes  
And touches of His hand, with so much art  
Diversified that two were never found  
Twins at all points; yet this obtains in all—  
That all discern a beauty in His works,  
And all can taste them: minds that have been form'd  
And tutor'd, with a relish more exact,  
But none without some relish, none unmov'd."

—T. S. J.

#### OUR BORDER FLOWERS—LIPWORTS.

No collection of herbaceous plants should be without a selection of this most accommodating race of plants. Their noble habit, their attractive appearance, their beautiful and curious-looking flowers are traits in their character that cannot easily be passed by. For many of our choicest border flowers we are indebted to distant lands. Our present subjects are from the Levant, Cashmere, Armenia, Europe, Siberia, and other countries.

These are among the very best plants we have for what is termed half-wild places, if only they can have light and air afforded them. In large borders when established they pro-



duce a grand effect when they have room to develop themselves. A good loam mixed with coarse grit well broken up is a good medium for them to grow in. They should be supplied with water when they need it. The taller-growing kinds require staking to prevent the wind from beating them about, for if left to themselves they soon become unsightly objects. They are readily increased by seed and division after growth has commenced.

*Phlomis gigantea* is one of the strongest growers of the family, and is a fine plant for the third or fourth row in a large border. *P. tuberosa* is another tall-growing kind, under favourable circumstances attaining the height of from 3 to 4 feet. *P. Russelliana* with its wrinkled downy leaves and purple flowers is a very effective border plant. *P. laciniata* should also have a place in our borders. Then there is *P. pungens*, *P. herba venti*, *P. simplex* and others that might be named. Perhaps the one most commonly met with is *Phlomis fruticosa*, or as it is called, Jerusalem Sage, but it belongs to the shrubby department, as does *P. lanata*.—*VERITAS*.

### AUTUMN PRUNING.

YEAR by year the importance of early pruning becomes more and more admitted, and the benefits resulting therefrom more acknowledged when the work is skillfully done; but still in large establishments I believe there is always some pruning left later than it should be, and in many smaller places it is not even thought about till long after it ought to be finished. No one can be more thoroughly convinced than I am that not a tree in the garden or orchard ought to be touched with the knife a day later than Christmas, and yet with all my efforts it has so far always been three weeks at least later than that time before all has been finished. This season at any rate I hope to have all done by the stipulated time, for certainly the fruit will not interfere with us much either by being in the way or taking up time in gathering, and I have already commenced operations.

Do not let my readers be startled and think I am going to cut all the foliage off my trees by shortening all wood back to two or three eyes. I never prune so hard as that even in late autumn if it can be avoided, being convinced from experience, although for a long time I was very stubborn about it, that the most perfect fruit is produced on plants which are allowed to increase in size annually to a reasonable extent. Call it the extension system if you will, although I do not hold with a system which would produce the greatest quantity of timber in our gardens in the shortest possible time. The object is to produce a fair quantity of fruit of the best possible quality. Where quantity alone is considered I do not hesitate to say that standard trees produce in a given number of years the most when allowed to grow without any pruning whatever, and there are varieties in each class of fruits which from their habit of bearing only moderate crops would also produce fruit of good quality if untouched with the knife; but as a rule the best quality and the most regular cropping is to be found in well-managed gardens or orchards attached to them where the trees are moderately pruned. Mind, I say moderately, for I believe there is more harm than good done by pruning in the present day, hence the outcry in some quarters against pruning altogether; but if sheep-shearing were done by unskilful men who took some of the skin as well as the wool off the animal's back, it would not prove conclusively it was wrong practice to shear sheep.

Nothing is commoner to hear than that an orchard which is left to grow its own way fruits every other year. The reason is that the trees generally fruit too freely when they do bear, and exhaust themselves, while at the same time the fruit produced is comparatively small and only of medium quality. In well-managed gardens, on the other hand, we do not recognise such an event as a fruitful season or an unfruitful one—I mean such results do not recur regularly; of course, if we have the weather in May which properly belonged to January nothing short of ample protection will insure us a crop of fruit. The fruit buds were there this season, bad as the preceding summer was, and a sufficient number of the flowers were perfect, and could have been saved by protection, as was proved by the abundant crop of Peaches saved only by broad coping-boards and a complete covering of frigid domo almost every night from the beginning of March to the beginning of June. I will not say that it pays to grow even Peaches in this way, but as long as I am expected to grow the trees on the open walls I shall endeavour to have fruit on them. But to the pruning.

Such trees as are liable to bleed or emit gum suffer the most from late pruning. Figs, Peaches, and Plums should all be finished so soon as there is no more chance of ripening, say by the end of November, and thinning as far as possible to admit light to the permanent branches without taking off too much foliage should be commenced on all fruit trees as soon after midsummer as the pressure of other work will allow. Do not be afraid to cut into the old wood to remove naked branches or weak unfruitful spurs. Wounds never heal so well or so quickly as when the tree is full of healthy partly matured foliage.

Black Currants have had all the pruning that will be necessary for them—that is, all the weak and as much of the old wood as can be spared has been cut clean away. Raspberries are having all the canes which have done duty this season cut clean out and the young canes thinned to about half a dozen; shortening of these will be deferred till growth has nearly ceased. Pear trees on walls are having all weak spurs cut close off, and the green growth of the remaining shoots pinched a second time. Standard trees of all sorts will have branches cut out where they are too thick or cross each other, and the smaller trees will have the weak useless growth removed so as to admit light and air to that which is intended to remain, thereby lessening the work for November, for unfortunately that is not only the month for pruning, but also for planting and clearing away leaves.—*WM. TAYLOR*.

### FLOWERS WITHIN OUR DWELLINGS.

FLOWERS in the humblest apartments have a delightful effect. Even luxuriously appointed saloons are rendered more enjoyable, and their elegance is increased by a judicious introduction of flowers and foliage. The odour of the flowers, the dark green leaves of some species, and the beautiful tints and varied forms of others, are singularly gratifying and refreshing. Plants of the commonest kinds offer lines of beauty which the eye delights in following and loves to rest upon. So we must have flowers upon our tables if they are ever so common; even a handful of Daisies, Buttercups, or a bunch of Clover, or a few tesselled spikes of feathery Grasses. Have a nosegay if you can morning, noon, and night, for flowers in the morning are especially suitable, they look like the happy waking of creation; in fact, they are always in season, and to arrange them artistically is an elegant attainment. The growing taste for cut flowers for indoor decorations, with nosegays and bouquets as floral ornaments, adds greatly to the charm of both public and private assemblies, for there is no ornament to equal well-arranged flowers.

A growing taste for plants and flowers is doing much for the community both in town and country. Most of the principal towns now have their flower marts, and the flower markets are well stocked with the choicest specimens. The principal one, Covent Garden, is a glorious sight of a spring morning—vanloads coming in from the country, and vanloads going out to furnish the dwellings of the metropolis. Of these flowers so tastefully spread many are tempted to take home a plant or a bunch of flowers, and so the taste for flowers spreads, and spreading, benefits. There is something so alluring in the way in which those floral gems are arranged that they become refreshing objects of admiration, and one of the most pleasing features in the "taste of the times" is the increasing desire for "flowers within our dwellings."—*N. COLE*.

### NOTES OF A SCOTTISH TOUR.—No. 2.

CASTLE KENNEDY—LOUGH INCH CASTLE, THE SEAT OF THE EARL OF STAIR, WIGTONSHIRE.

It is necessary to place these two names together for this reason—Castle Kennedy is so much better known by name, yet it is in ruins and has been so for many years; while Lough Inch is the modern residence, separated from Castle Kennedy by the pinetum, and deriving its name from the lough which lies at the foot of the hill on which it is built. Everyone has heard of Castle Kennedy and its able and intelligent gardener Mr. Archibald Fowler, but few know of Lough Inch, the very fine baronial residence of the Earl of Stair.

Castle Kennedy, like many of the estates of other families, came to the Dalrymples by marriage. It was formerly in the possession of the Kennedys, whose stronghold was on an island in the other lake (called the White Loch) in the demesne, and, like many of the heads of families in those semi-civilised times, were a terror to their neighbours and defiers of the laws. At

last a sort of compromise was made, the stronghold was given up, and the Kennedy of that day engaged to be on his good behaviour. The fort was levelled to the ground, but in a little while a far stronger hold was erected on the mainland. Before, however, it could materially interfere with its neighbours more peaceable times arrived, and a massive ruin alone testifies to a strength long since departed.

The family of Dalrymple has made for itself a name, not merely as the possessor of broad acres, but as having been borne by men of eminence in various walks of life. James Dalrymple, the first Viscount Stair, was a man of philosophic mind, and his work, "The Institutions of the Law of Scotland," remains to this day the guide of Scottish lawyers. John Dalrymple, the second Earl of Stair, was born in 1673, was a companion of Marlborough, and held high command at

the great battles of Oudenarde, Malplaquet, and Ramillies. He was afterwards sent on a diplomatic mission to France, which he conducted with success and in a style of great magnificence. It was of him, I think, that Louis XIV. said he was the truest gentleman he had ever seen; for once on their setting out together the king motioned to him to enter the carriage first. This he did at once; one who was not a true gentleman, the king remarked, would have held back. But he has more claim on our notice from his having been a good horticulturist, and during twenty-two years devoted himself at Newliston to the pursuit of gardening and its sister agriculture. He is said to have planted groups of trees to represent the positions of the British troops at the victories in which he had been engaged, and he was the first to plant Cabbages and Turnips in the open fields in Scotland. Another

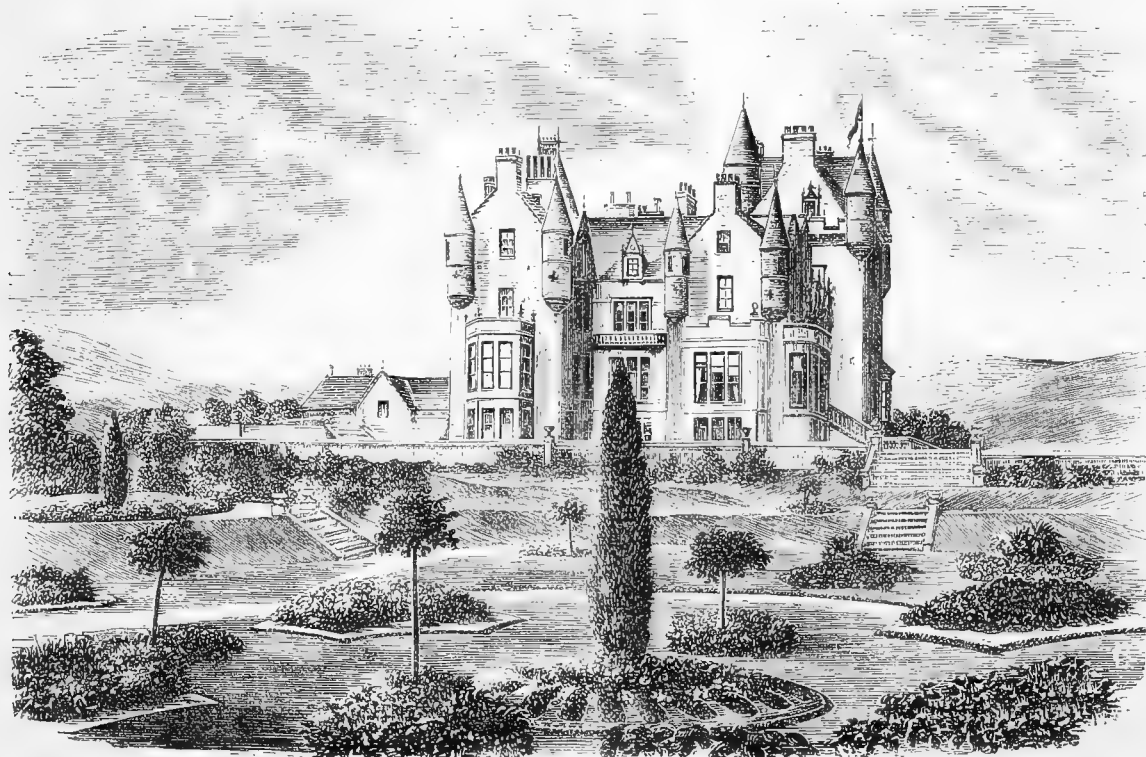


Fig. 15.—CASTLE KENNEDY—LOUGH INCH CASTLE.

man of note was Sir David Dalrymple, Lord Hales, who was the author of several works on jurisprudence and also of several volumes of poems; while yet another able member of the family was Alexander Dalrymple the hydrographer, who was much engaged in the Eastern Archipelago, and whose charts were for a long time of much authority. The present Earl seems to have inherited the gardening tastes and business habits of some of his ancestors, and as the property has greatly increased he has been enabled to do much.

In order to understand the position of the place and its general character it is necessary to say that the two places of Castle Kennedy and Lough Inch, although in one demesne, are essentially distinct in character, and have wisely been kept so. Castle Kennedy has for its surroundings a walled garden, which, however, is very much in the way of the view, and will, it is most probable, be ere long removed; while another garden lower down in the grounds and quite out of sight serves the purpose of supplying the family with its requirements in fruit and vegetables. All around this are to be found trees of considerable size, and an immense series of grass terraces, of which fourteen miles in length have to be kept in order. The ruined Castle is situated on an eminence between the two lochs; and at the bottom of it, and in the hollow between it and the other eminence on which the pinetum is mainly placed, is a smaller piece of water, a sort of American valley for *Rhododendrons*, *Azaleas*, *Kalmias*, &c. With regard to the more modern part it is to be remembered that thirty-five years ago,

when Mr. Fowler undertook the duties of gardener, there was nothing but a barren waste; so that Lord Stair and he, working hand in hand, have had the pleasure of seeing the place growing under their fostering care. It already is one of the most interesting places I have ever seen, and in another generation will be something for our grandchildren to see and talk of. Between the pinetum and the Castle there is a piece of waste ground, or rather undressed ground, which will probably some of these days be altered, while at the side of the Castle is the very beautiful parterre arranged in the present style of gardening, represented in the engraving. From the Castle a fine view is had of the White Loch, with its heronry on the island, the pinetum, the old ruins of Castle Kennedy, while Lough Inch lies beneath—the whole encompassed by a line of mountains, low indeed for Scotland, and not of the "stern and wild" character which is said by Scott to mark Caledonia, but carefully planted in some places, in others affording cover for the grouse and blackcock.

It was on the morning of a lovely July day, the very perfection of a day for seeing mountain scenery—a fresh breeze blowing, and fleecy clouds casting their shadows on the mountains, that Mr. Fowler kindly met us in his "machine," the name always given to a carriage here, and drove us round the park, thus giving us a general view of the place. We entered by a neat and unpretending gate and passed some good clumps of Conifers, &c., carefully placed, while cottages belonging to the gamekeepers, &c., are studded about,

Lord Stair not rejoicing in seeing a waste, but preferring to see well-built and solid cottages peeping out from amongst the foliage in various parts of the demesne. We then skirted the shores of Lough Inch, gaining fine views of the mansion at every turn, the long line of grass terraces, the banks of splendid Rhododendrons mingled with huge trees of Fuchsias, which now that the former were over were glowing with their rich scarlet flowers. We caught of course occasional glimpses of the old ruins of Castle Kennedy; and having noted many matters of interest in the details of the planting, of which more anon, we were met at the end of the loch by a lad who took the "machine," and we set out on our journey on foot to view in detail the subjects of interest which had made our drive so agreeable, and with Mr. Fowler as our guide it could not fail to be one of instruction and profit; but as I have personally a strong objection to long papers and imagine that others have also, I must reserve these details for another week's Journal.—D., *Deal*.

### MR. RIVERS'S NURSERIES, SAWBRIDGEWORTH.

As a grower of fruit trees and a raiser of new kinds of fruit, as the author of works pertaining to fruit-cultivation, and as popularising, so to speak, the subject of fruit-production, as fostering a taste for that pursuit in which he has long delighted to indulge, and promoting the spread of a work both profitable and enjoyable, Mr. Rivers's name is held in esteem by those of kindred tastes in this and other countries, and his nurseries at Sawbridgeworth have become of world-wide fame. They cannot be visited in the fruit season without affording instruction by conveying useful hints and practical lessons. These nurseries are essentially practical. There is no outward display, not even the name of "T. Rivers & Son, Nurserymen," being inscribed at the entrance. Even the fruit trees and orchard houses are as much as possible hidden by a fringe of Conifers; and the visitor, being a stranger, might pass by one of the most famous of English nurseries without supposing that any such establishment existed in the vicinity which he was traversing.

Harlow, on the Great Eastern Railway, is the most convenient station from London for visiting these nurseries. The district is a pleasant one. The roads are flanked by hedges almost of tree-like magnitude, and the undulated pasture lands and corn fields proclaim the neighbourhood decidedly agricultural. The district is well wooded, and the trees, like the hedges, are large and luxuriant, and speak in unmistakable terms of a fertile and generous soil. To this good soil—good for fruit as well as for forest trees—Mr. Rivers is primarily indebted for his position, but then it required skill to turn it to account so fully and successfully as has here been accomplished.

This has been a nursery for 150 years, and consists now of about as many acres, and continues to increase in size yearly. The greater part of it is freehold, and nearly all is occupied with fruit trees, and contiguous fields have been "taken" and devoted to the same style of cropping to meet the great and ever-growing demands for the commodities of this great pomological farm.

The site of the nursery is boldly undulated, is in fact a series of hills and valleys, and far almost as the eye can reach are "trees, trees everywhere"—trees of almost all kinds and shapes, but not quite of all sizes, for it is remarkable to note that excepting a plantation of Plums and another of Pears for growing fruit for market purposes the stock is all young, and that it is self-evident that great as are the numbers of trees that are raised yearly they are sold off, and that others still younger reign their short reign in their stead. There are trained trees, pyramids, bushes, and cordons, but all young and portable. Trees in pots there are by thousands, Peaches, Nectarines, Plums, Pears, Cherries, and Apricots, and yet this is only one of many great fruit-tree establishments, and the fact is suggestive of the magnitude of English fruit-tree culture.

It is not, however, the increase of old standard kinds of fruit that has made Sawbridgeworth famous so much as the raising and distribution of new varieties, the sterling qualities of which are not only widely recognised in this country, but equally so on the continent of Europe and in America. In the raising of new fruits Mr. Rivers was ahead of his fellows in appreciating the importance of one point—earliness, and to that supreme point he has directed his attention. To be "first in the market" is the desideratum of all mercantile men, and especially to be "first" with fruits is an advantage of the

greatest moment. A week, or even half a week, in advance is a most fortunate position to secure, for in that or less than that time fruit will depreciate in value quite 50 per cent. A striking instance of this is afforded by Early Rivers or Rivers' Early Prolific Plum. This Plum realises double and treble the price of other Plums, principally on account of its earliness combined with its superior quality. Of this Plum eight hundred bushels were sent to market from Sawbridgeworth last year, and commanded more than double the price of other Plums then offered in Covent Garden. Similarly is the advantage of earliness demonstrated with Peaches—a fact which the English have not been quite so wide awake to as our continental neighbours and American friends. They provided themselves largely with these advanced varieties as soon as their character was proved, and now the French and Belgians are "first" in the English market with foreign-grown fruit of English-raised seedlings. In some parts of America where Peach culture is carried on to a scale of great magnitude the value of the Sawbridgeworth seedlings is being freely recognised, and large numbers of such sorts as Early Beatrice and Early Louise have to be provided to meet the great export demand, for these sorts are assuredly "first in the market" wherever they are grown. They supersede Early Rivers, for the latter is prone to crack at the stone—a warning which its raiser can afford to honestly aver in his catalogue. On a small scale as well as on a large one the importance of gaining a week in delicious and perishable fruit is a matter of great consequence, and hence no garden is considered complete which does not contain the earliest as well as the best of everything in season.

But fruit trees are not only grown on a scale of great magnitude in the open air, but they are also cultivated under glass in greater numbers than are to be found in any other establishment. The quantity of fruit produced in the orchard houses at Sawbridgeworth is enormous, and is unquestionably a source of great profit to the owners. The structures devoted to fruit-growing are both numerous and extensive. There are thirty-five houses—not, like many of the trees, "miniatures," but several are 100 feet in length by 24 feet in width, span-roofs; and lean-tos range from that up to nearly 300 feet in length. It is not necessary to notice each house separately, for their contents are constantly being changed to advance or retard the different crops, and in otherwise carrying out the routine of the establishment. These houses, as is generally well known, were not built to "look at." They are home-made structures, erected in the first instance as experimental, but have long since proved their worth and value in a manner quite indisputable; and that they are not fragile their long years of service and their present substantial state is sufficient testimony; and that they also answer their purpose as well as more elaborate and costly-built houses the fruit which they have produced, and which they now contain, affords substantial evidence. Many of these houses are heated and many are unheated. Their sides, where there are sides, are formed of boards supported by oak posts, some of the posts being encased in iron sockets, and other houses have brick foundations; but all have been erected on principles of economy and usefulness, and as proving how large and certain crops of fruit may be produced at the least cost. Mr. Rivers has not indulged in the "luxury of building," but his object has been fruit-growing, and he has succeeded.

The trees are grown in pots with but a few exceptions. Let us take as a sample of many others one of the large span-roofed houses. There are two rows of trees along the centre. These trees are 10 to 12 feet high, and are furnished almost down to the pots with foliage, and are laden with fruit. There are two other rows of trees along each side of the house, trees of lower stature but also heavily cropped. Some of these trees have been cultivated in pots for upwards of twenty years and have branches gaunt and scraggy, but the foliage is as healthy as ever, and the growth is as free and the fruit as good as on younger trees. The soil is removed from the pots to two-thirds of their depth annually, and the fresh soil is supplemented by rich top-dressings, and this practice with freedom from insects preserves the trees in their healthy fruitful state. But a few trees are planted out, standards, and are wonderful by their mode of growth and productiveness. Their stems are about 6 feet in height and 6 inches in diameter, and their heads are 6 to 8 feet in diameter. The trees were planted in the ordinary soil many years ago, and it is never dug, top-dressed, or watered. The surface is almost as smooth as glass, and as dry as dust, yet the trees are in perfect health, and the

crop of Peaches is most abundant, the trees requiring no "pulleys" to "bring down" the branches. Trees of Royal George, Noblesse, and other sorts produce ten to twelve dozens of Peaches annually of first size and quality. The roots of these trees have evidently penetrated to the soil outside the house, and the soil inside receives some water which passes through the soil of the trees in pots, but beyond this the roots are not watered. There can be no doubt whatever that this house produces many more Peaches and Nectarines than could be produced were the house trellised and every part covered with fruitful branches. The fruit on these planted-out trees hangs almost in clusters, and the trees require only the smallest possible amount of attention. Neither training nor pinching is resorted to; all that they require and receive is one severe pruning annually, and that in winter. In consequence of this close pruning the terminal shoots are strong and luxuriant, and cause a free flow of sap to the fruit which is produced by the twiglets. The term "twiglets" is used in contradistinction to spurs, for the small internal growths of the trees are not pinched but are left to mature to their full length of 6 to 9 inches. It is found that more air is permitted to circulate in the interior of the trees by this system than is the case by the pinching; labour is also saved, and profitable crops of fruit are produced. It is the simplest of all modes of Peach-growing—is, in fact, a counterpart of Apple-growing in well-kept orchards. Besides Peaches and Nectarines, Apricots are largely cultivated in pots, and heavy crops of superior fruit have been gathered, the remnant of the harvest being now in course of ripening. Mulberries are also grown, the fruit being now ripe and greatly superior in size and quality to fruit which is produced in the open air. A good-sized bush produces many dishes of fruit. Other houses the same size as the one described are similarly occupied with a few modifications, such as having more trees planted out or the houses being partially trellised, for trees are grown under all forms of treatment and systems of training.

Another old house is noteworthy as showing how every place is turned to account in this nursery. It had been a vinery for thirty years, and is now a trellised Peach house. The Vines were removed and standard Peach trees were planted in the outside borders, bringing their heads inside the house, and without any more border preparation excellent crops of Early Beatrice, Early Louise, and other sorts are now being gathered. Thus a plain structure which cost a mere trifle in its erection more than a quarter of a century ago cannot fail to be highly remunerative for several years to come. Another old house near it is still devoted to Vines, which bear heavily. For a number of years they were pruned on the spur system and eventually failed, when young rods were trained up, and the house is again filled with Grapes. Under the Vines Figs are grown on bushes, and good crops are produced.

Here may well be noted a few of the best kinds of Peaches and Nectarines. The earliest Peach is undoubtedly Early Beatrice. The fruit is somewhat small, but is of excellent quality. It was raised from the white Nectarine. Closely following it is Early Louise, a larger and darker fruit, melting, juicy, and excellent; a most valuable Peach, raised from Early Albert. The next in order of ripening is Hale's Early, a fine American kind above medium size, handsome and excellent. Then comes Condor, a large, fine, and good Peach. Ripening about the same time is Rivers' Early York, a medium-sized delicious Peach, superior to its parent Early York in not being liable to mildew. This is followed by Dr. Hogg, a full-sized dark, handsome fruit of excellent quality, the tree being a vigorous grower and productive. A fine Peach to follow is Princess of Wales, very large, handsome, and superior; and still later are the two fine kinds, the Nectarine Peach and Alexandra Noblesse, two of the finest Peaches in cultivation, but not always ripening in the open air in cold seasons and districts. The kinds named will with orchard-house culture provide a supply of fruit of the first quality over a period of at least five months. In the nursery are many unnamed seedlings, one of which, a most productive kind, has the quality of Grosse Mignonne, the size and shape of Bellegarde, and the colour of Noblesse; a distinct and valuable Peach, worthy of a good name.

The best Nectarines arranged as nearly as possible in the order of ripening are the following:—Advance—this is a new early Nectarine, ripening a fortnight before Lord Napier, and on that account is specially valuable. The fruit is, perhaps, rather small, but possesses a rich Stanwick flavour. Next comes Lord Napier, one of the most important Nectarines

which has ever been offered to the public. It is early, hardy, productive, large, and of excellent quality. It was raised from the Early Albert Peach. This is followed by Rivers' Orange, a large melting Nectarine of first quality, a week earlier than its parent Pitmaston Orange. Stanwick Elruge comes next, a large rich fruit, possessing the peculiar flavour of the Stanwick, and is earlier than its parent the Elruge. A fine Nectarine following is Humboldt. This is very large, rich, and productive; it was raised from Pine Apple, and is almost or quite equal in flavour to that fine kind which comes next on the list. Pine Apple is a prince among Nectarines. Fruits of it have this year ripened in the orchard house 9 inches in circumference. The colour is orange and crimson, and in quality it is extremely rich. In ripening it is a week or so later than Pitmaston Orange. The last to notice is the late kind, Victoria. This requires a warm climate or the aid of glass to ripen perfectly, it is then very large and excellent. The few kinds named are selected as affording a long succession of fruit of the best quality. If only one tree can be grown choose Lord Napier; if two, add Pine Apple. These are two of the best Nectarines at present in cultivation, and will be standard kinds for a long time to come.

We pass to the Cherry house. Than Cherries no fruit is more worthy of the protection of glass, and none more certainly and profitably cultivated. Indeed it is seldom that the Cherry can be perfectly ripened in the open air—birds, wasps, &c., preventing the fruit from hanging sufficiently long to bring out its full qualities. Many kinds of Cherries require to hang almost to the shrivelling point before they can be perfected, and this can only be the case when trees are grown under glass. The size and colour of the fruit is also as much superior as is its quality over fruit that is produced in the open air. Of this convincing proof is afforded by the fruit at the great exhibitions, the prizes invariably being secured by gardeners who grow their fruit under glass. The Cherry house at Sawbridgeworth is a span-roofed structure, light and well ventilated. The trees are grown in pots, and they have been heavily laden with splendid fruit. Some fruit still remains, and in its partially shrivelled state is most delicious. Some of the best sorts for cultivation in pots are Early Rivers, a seedling from Early Purple Gean, early, hardy, and rich; Empress Eugénie, the earliest and the best of the May Duke type; Bedford Prolific, similar to the Black Tartarian; Bigarreau de Schmidt, very large and rich; Governor Wood, a valuable light red American kind; Monstrueuse de Mezel, a monstrous red fruit of excellent quality; and Florence, a very large Cherry with a firm crackling flesh, and which hangs a long time after it has ripened. The above Cherries will provide a supply of superior fruit over a long period of time, and are highly worthy of being grown under glass.

Vines are grown in enormous numbers, house after house being devoted to them. There are probably five thousand in pots, hundreds of them—early fruiting canes—being grown on the hot-water pipes, so that there can be no rooting through the pots. All the best kinds in cultivation are cultivated in numbers proportionate to the demand for each. The most popular by far are the Black Hamburgh and Muscat of Alexandria. That fine Grape Madresfield Court is also in great request; so also amongst the later are Alicante, and especially Lady Downe's Seedling. There are moderate numbers of Mrs. Pince's Black Muscat, Gros Colman, and other sorts. Amongst white Grapes Foster's White Seedling and Buckland Sweetwater are the most popular. The Frontignans are also in great demand; and for early Grapes of superior quality few can surpass such sorts as the Early Smyrna, Primavis, and Tokay Frontignans. For exhibition purposes they are unsuitable, but for table quality they are unsurpassable. Mr. Pearson's and Mr. Thomson's Grapes are also grown freely—Dr. Hogg, Golden Queen, and Mrs. Pearson of the former raiser, and Golden Champion and Duke of Buccleuch of the latter. Very many kinds are planted out and fruiting, and amongst these the Duke of Buccleuch. The berries are very large and sweet, and are remarkably thin-skinned. Ryton Muscat as grown here is evidently a superior Grape. In quality it is similar to Muscat of Alexandria, but the berries set better and the Vine is more hardy. Orange trees are largely grown, and are sold as fast as they arrive at a fruitful size. The plants are consequently small, but were bearing fruit of excellent quality.

In the outside quarters the trees of all kinds of fruit in pots are remarkable for their numbers, health, and cleanliness.



Scarcely an insect or a speck of mildew was to be seen. Pure cold spring water is the only cleansing medium resorted to, and with this the trees are syringed freely. The plantations of miniature bush and pyramid Pears, Apples, and Plums are many of them bearing freely. Noticeable amongst the latter was The Czar, a new, fine, dark, and most productive Plum, ripening immediately after Early Rivers. These with Oullin's Golden Gage and Prince Englebert are considered to be amongst the profitable Plums at Sawbridgeworth, and are largely planted for market purposes—that is, for producing fruit for sale. Some of the most profitable Apples for dwarf trees are Cox's Orange Pippin, Lord Suffield, Duchess of Oldenburg, Stirling Castle, and Ecklinville Seedling.

The espalier orchard is also noteworthy. The trees are trained in various forms to wire trellises 6 feet in height, the trellises being about 4 feet in diameter. These are so arranged that they can be covered with glass if needed. Undoubtedly a great quantity of fruit can be quickly obtained off a given piece of ground by this mode of culture, and the trees can be conveniently protected from spring frosts.

Roses are grown by the acre of all the standard varieties, and there are good collections of Conifers. Flowers are only sparsely represented. Yuccas grow most vigorously in clay, and there is a large plantation of Chinese Paeonies. On the lawn are good Wellingtonias and standard Nuts, which are ornamental and productive. One of the best Nuts is the Atlas Cob (*Corylus algeriensis*), the clusters being of immense size and produced in great profusion.

The heating of the various houses is mostly done by small boilers, one being placed outside each house, and can be moved when necessary by sacrificing a couple of indiarubber rings, and be placed where required and connected with the piping inside. These are coil boilers such as are manufactured by Mr. Read and Mr. Deard, and it is astonishing to see how powerful they are—one apparatus of four 1½-inch coils, forming a cylinder 8 inches in diameter, being sufficient to heat 250 feet of 3-inch pipes. Mr. Rivers's foreman spoke most highly of these boilers, of their economy and efficiency.

To Mr. Rivers, jun., and his competent foreman, Mr. Elsdon, I am indebted for much courtesy and attention—A VISITOR.

### ROTATION OF CROPS.

WE know it to be true, as "A CORRESPONDENT" states, that Potatoes have been grown on the same plot for several successive years, but there was always a crop of Cabbageworts intervened and manured for. The manure, we think, was not the only source of nourishment to the Potatoes, but these also derived nourishment from matters given out by the roots of the Cabbages. We have always found that Potatoes do well after them, and that the roots of Cabbages and all the Brassica tribe give out peculiar excretes to the soil we have often noticed. Mr. Cuthbert Johnson has in the "Journal of the Bath and West of England Society" the following notes on "the excreta from roots":—"In reply to my inquiries, Mr. Purser remarks:—

"I have much pleasure in answering your inquiries as to the continued success of mixing the Turnip with both the Mangold and the Kohl Rabi.

"We have tried it now for some years, and have been most successful, having escaped the loss of plant from graping, or, as the disease is better known, from branching out into fingers and toes, and the Turnip rotting away altogether. This season has been a very trying one, as we have scarcely had a shower for many weeks, and the Turnips are the best sown with the Kohl Rabi this year, having been a month later sown than with the Mangolds, but both have escaped disease, and the later ones are now bulbing well.

"The Turnips have been grown upon the same ground with both Mangold and Kohl Rabi, and grow well still, and to a great weight. The quality this year with Mangolds, owing to the fearful drought, will not be so good, but free from disease."

"The conclusions at which we may reasonably arrive, then, are that plants probably excrete matters into the soil that are nutritious to certain plants of a different kind to themselves, and that these excreted matters are but very imperfectly known to us."

### FRUIT FARMING.

AT a meeting of members of the Midland Farmers' Club, held in Birmingham, the Rev. W. Lea read a paper on "Fruit Farming." He said the chief point to bring forward for dis-

cussion was, "Will it pay a farmer in the present day to make the growth of fruit a portion of the regular work of his farm?"

A few years ago he should have answered without any hesitation in the affirmative; but before he did so now he should first inquire into the condition of the labour market in the district in which it was proposed to plant. Fruit was an article which must go off when it was ripe; if it was not gathered and marketed some sorts would be spoiled, and to gather it a certain amount of women's and children's labour was required. If this was at command one difficulty would be removed. The question of soil and situation should, of course, be considered. There were few soils, even the lightest sands, which would not bear some variety of fruit. But before a man began to plant he should ascertain from a careful inspection and inquiry in the neighbourhood what fruits were congenial to the soil, and confine himself, of course, to those sorts. There was no certain rule to be laid down on the subject. Some districts were most suitable for the Apple, others for the Pear, others for different kinds of Plums or Damsons; and sometimes in one field the soil varied so much as to make it desirable to plant one variety of fruit at one end of it and a different one at the other.

Next came the question whether the landlord or the tenant should plant; if the latter, would it pay him to plant on a seven, fourteen, or on a twenty-one-years lease? and if he left at the end of these terms, what compensation should he receive, and from whom should he receive it—from the landlord or from the incoming tenant? He was of opinion that the best arrangement would be for the tenant to plant, and for the landlord to undertake to pay at the end of the lease the cost price of all trees left in healthy condition, and interest upon the outlay at 5 per cent. per annum. Fruit planting was profitable both to landlord and tenant if properly done and the sorts well selected.

The advisableness of planting young fruit trees in a hedge-row must depend a good deal on the age and strength and nature of the hedge. If it was of old, vigorous Quick, the roots would probably have taken such an entire possession of the soil that a stock newly introduced into it would only lead a sort of languishing existence for several years; perhaps, and then die away. But if anyone wished to try the experiment, he should recommend him to plant wild stocks, and graft them with the sorts desired. If a hedge were being planted there would be no such difficulty; the fruit trees would have the same chance as the Quick, and both would grow up side by side together. This plan would be worth trying, or, indeed, the first-mentioned, provided the hedge was between two arable fields. If it were between two grass fields, or with a grass field even on one side, the advantage would be questionable; for the cattle, in trying to get at the fruit—of which they are very fond—would probably do as much harm in breaking the fences as would be covered by the profit of the fruit. Some damage, too, would unavoidably be done to the hedge in the gathering of the fruit.

Planting an orchard on turf was comparatively expensive, which was a point requiring to be taken into account. A good deal of labour was required to do it well, and if it was not done well it was better not attempted at all. On the whole it was questionable whether it would pay to plant an orchard on turf, except on some banky sloping fields with a south aspect, which seemed specially adapted to the purpose. Then came the third alternative, which seemed to him the most desirable—to plant an orchard on a well-fenced piece of arable, as near as may be to the house, and from which cattle of all kinds are to be entirely excluded. Here it might be done at much less expense, as no protection would be required except against ground game. Supposing an acre to be square it might be cultivated in two ways—(1), by planting standard fruit trees in rows 30 feet apart, and by filling up the space between with rows of Plums and bushes; (2), by standards—Apples, Pears, and Cherries, by Plums or Damsons, by bushes, Currants either Black or Red, and Gooseberries. According to this plan the whole field would have to be cultivated with the spade, and would take pretty well the whole time of one man if it were three or four acres in extent.

What was called "pot fruit" was required now as a rule. The Apples and Pears which paid best were those which came in earliest and which kept latest. These last probably brought the highest price. But when the cost of storage and of picking over had been deducted, he doubted if they paid so well as the first. If they were going to buy trees, let them go to the nurseries themselves, select and mark the trees to be sent in

planting season. They were not necessarily to pick out the biggest, but rather vigorous, healthy, young stocks, which showed no sign of having been checked or stunted in their growth. They should not go in for too many varieties of fruit. On his three acres he had more than one hundred sorts of Pears, forty of Apples, thirty of Plums, to say nothing of Currants and Gooseberries. From his own point of view this variety was necessary; for he was experimenting to see what sorts would best suit the locality and pay the best; but to farmers this endless variety would be very troublesome, especially if the specimens were dotted about in different parts. The best plan, if they were planting a hedgerow, was to plant it all with one sort of fruit. Then, one going over the ground, or at most two gatherings sufficed, and a vast deal of labour and confusion were saved. So, too, in orchards, whether on turf or arable. If they had several sorts let them keep each sort in a separate row; or if more than one row of the same sort was desired they should have the rows together, so that that portion of the ground might be cleared at once of its produce. They should be very careful about the pruning for the first three or four years until the heads were got into shape. After this the trees might be left to themselves, merely cutting out the branches which interlaced from time to time.

### NOTES AND GLEANINGS.

We omitted to notice that at the last meeting of the Floral Committee at South Kensington twelve varieties of cut blooms of DOUBLE PELARGONIUMS were exhibited by Mr. Cannell, Swanley, Kent. The varieties were *Jacobæa* (Laxton), *Lucie Lemoine* (Lemoine), *Eugène Bandowin* (Keteleer), *Henri Beurrier* (Alegatiere), *Konig Albert*, Ivy-leaved (Liebman), *C. H. Wagner* (Alegatiere), *Figaro* (Lemoine), *Louis Boutard* (Boutard), *Louis Buchner* (Buchner), *M. Buchner* (Lemoine), *Mdme. Amelio Baltet* (Lemoine), and *Meteor Flag* (Turner). This was the finest collection of double Pelargoniums that has come under our notice. The colours varied from pure white to rich crimson. A vote of thanks was awarded for them.

— NEVER CUT FLOWERS during intense sunshine, nor keep them exposed to the sun or wind. Neither collect them in large bundles, nor tie them tightly together, as it hastens their decay. Do not pull them, but cut them cleanly off the stems with a sharp knife, not with a pair of scissors. When taken indoors place them in the shade, and reduce them to the required length of stalk with a sharp knife, by which means the tubes through which they draw up the water will be left open, and the water will ascend freely; whereas if the stems are bruised or lacerated, these pores will be closed up. Use pure water to set them in, or pure white sand in a state of saturation, sticking the ends of the stalks in it, but not in a crowded manner. If the stems are put in water alone it ought to be changed daily, and a thin slice should be cut off the ends of the stalks at every change of water.

— ONE of the most brilliant of hardy border plants is the DOUBLE SCARLET LYCHNIS. We lately saw plants flowering in the collection of Mr. Ware of Tottenham, and the remnants of the flowers which had been left by the hailstorm were quite dazzling. The individual pips are as large as those of double Pelargoniums, and the colour is brighter than the brightest of the Pelargoniums. For distinct effect few plants are more conspicuous than this double Lychnis, and the flowers also will bear the closest examination. As a companion plant the double white Lychnis is also worthy of culture. The plants are perfectly hardy, will flourish in almost any kind of soil, and require little attention beyond thinning-out the shoots and staking to prevent them being broken by the wind.

— THE double-flowered Ivy-leaved PELARGONIUM KONIG ALBERT is likely to prove the forerunner of other valuable varieties of the same type. Already Mr. Bull of Chelsea has raised some seedlings, which are perfectly double and varied in colour, and which can hardly fail to be sought after. Unlike the doubles of the Zonal type, the new Ivy-leaved varieties possess the same free-flowering habit as the single varieties; and as the colours are pleasing and distinct from those of the Zonals, and the trusses have long and stout footstalks, they will be valuable for bouquets and other purposes to which cut flowers are devoted.

— IN another column it is noted that a subscription list is organised for the relief of the sufferers by the late HAILSTORMS which recently devastated the districts in the north and north-east of London. We have lately passed through those districts,

and seen how extreme is the injury which has been done to nurseries, gardens, and glass structures. In some places scarcely a vestige of foliage is left on the crops and plants. More than 90 per cent. of the glass has been broken in green-houses which were exposed to the violence of the storm, and we can testify that the losses are fully as great as have been represented.

— THE number of persons who visited the Royal Horticultural Society's Gardens on Bank Holiday, August 7th, at 2d. each, was 5705 = £47 10s. 10d.

— JUST on the eve of going to press we have received a box of blooms of single Petunias from Mr. Cannell, Swanley, Kent, which for size, richness of colour, and purity of markings, surpass all that have previously come under our notice.

— ARUNDO DONAX is growing luxuriantly in the nurseries at Sawbridgeworth, and its stems are turned to profitable account as supports for the training of fruit trees and other useful purposes. It is perfectly hardy, requiring no protection whatever during the winter or spring. This plant is a native of the south of Europe, growing in moist places, and its canes are employed for fishing-rods and for the training of Vines. Planted by the sides of water in the southern parts of England this fine Reed would have an ornamental effect, and the dried canes could be turned to account in providing straight and neat supports for plants in the flower garden. The young shoots of this plant have been recommended to be eaten as Asparagus.

— OWING to the extreme heat and drought, and the dry gravelly subsoil, many of the LIME TREES in the neighbourhood of London, notably on Clapham Common, are entirely denuded of their foliage, and present quite a cheerless appearance. It is the fashion now to plant Limes somewhat freely as ornamental trees on account of their free growth, but their short period of leafage in dry soils is a matter worthy of being remembered. In strong moist soils they will remain green and fresh for some weeks to come.

— THE pomological display in connection with the PHILADELPHIA INTERNATIONAL EXHIBITION will take place from September 11th to September 16th, in a special annexe to the Agricultural Hall. Tables and dishes will be provided free of charge, and the contributions will also be received, unpacked, and labelled by the department. The display will consist of sixteen classes, from Nos. 881 to 896. No. 881, summer Apples; 882, autumn Apples; 883, winter Apples; 884, summer Pears; 885, autumn Pears; 886, winter Pears; 887, freestone Peaches; 888, cling Peaches; 889, Apricots; 890, Nectarines; 891, Plums; 892, native Grapes; 893, foreign Grapes; 894, Water Melons; 895, Citron Melons; 896, tropical plants. Intending exhibitors should apply without delay to the offices of the British executive, 5, Craig's Court, Charing Cross.

### ROSE JOHN BRIGHT.

MR. CAMM, at page 91 of the present volume of the *Journal of Horticulture*, is under a misapprehension in making me the foster parent of H.P. Rose John Bright, which is one of Mr. George Paul's seedlings; I am not, therefore, responsible for the alliance he makes between imperialism and democracy. Empress of India is one of my seedlings, and sent out by Mr. G. Paul. It is a very fine dark show Rose, but I fail to see its likeness to Reynolds Hole. The worthy namesake of that Rose says, "It is a commixture of Pierre Notting and Louis Van Houtte, though quite distinct from both, and seems to me full of promise." The wood of the Empress is spiny, and the petals somewhat overlap in the way of Louis XIV. Her Majesty was raised to the dignity of Empress, and received a first-class certificate from the Royal Horticultural Society long before the mention of the imperial title met with hostility.—THOMAS LAXTON, Stamford.

### CHEAP AND EFFECTIVE ICE HOUSE.

AN ice house made of rails on the top of the ground in the open sun will preserve ice all summer if rain is kept from it, and a foot of sawdust is kept between it and the earth. The ice must be closely packed to prevent a continuous contact with air at every point. My ice house stands in the sun on a dry knoll, is made of rough boards about 12 by 16 feet half-board length, 8 feet high, has a steep board roof, a north window, never shut in summer, with 8 or 12-inch upright studding inside; inside horizontal boarding, and filled between these two boardings with sawdust pounded down. The floor is made

of pieces of rails, boards, &c., laid on the ground and cross-laid, and covered with a foot of sawdust. On this a layer of ice cakes is placed, leaving a foot or more on the outside for sawdust, and sawdust is placed between the cakes that do not fit closely, and the last layer is well covered with the same non-conductor. In summer the sawdust is occasionally packed down, and large ice blocks when wanted sawed into smaller pieces and repacked. This ice house cost me about \$5 labour and \$15 to \$20 for hemlock lumber, \$2 for saved sawdust, \$3 to \$5 a-year for six to ten loads of ice blocks from the lake, and when ice-gathering has failed one or two seasons ice has been found in good condition the second summer. A chunk of it will last half a day in a covered tin pail in dog days; it cools our milk and cream, and, in short, is winter saved for use in summer.—W. W. NEWMAN.—(*New York Tribune*).

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**BONGARDIA RAUWOLFII.** *Nat. ord.*, Berberidaceæ. *Linn.*, Hexandria Monogynia.—“*Bongardia Rauwolfii* has a very wide range in geographical distribution, from the islands of the Greek Archipelago (Chios and Rhodes), through Asia Minor, Syria, and Persia, to Afghanistan and Beluchistan. In Syria and Persia it is said to be found in cornfields and to be used as an acid pot-herb. Plants of it have been received at Kew from Max Leichtlin of Carlsruhe; and from N. Elwes, Esq., the latter of which flowered in the spring of the present year in the open border.”—(*Bot. Mag.*, t. 6244).

**DUVALIA POLITA.** *Nat. ord.*, Asclepiadaceæ. *Linn.*, Pentandria Digynia.—“This flowered in the Royal Gardens, Kew, in the summer of 1874, and is now coming into flower again. Its history and the precise locality from which it came are unknown, although not uncommonly cultivated by Stapelia growers under the names *Stapelia polita* and *S. echinata*. With the exception of *Duvalia Corderoyi* it is the finest of the genus, and is remarkable on account of its regularly six-angled stems and very shining corolla, the lobes of which are less replicate than those of any other species in the genus.”—(*Ibid.*, t. 6245.)

**EULOPHIA MACROSTACHYA.** *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“A very graceful Orchid, introduced into the Horticultural Gardens from those of Peradenia by Mr. Watson, their then superintendent, so long ago as 1837, and more recently sent to England by Dr. Thwaites, from whose specimens cultivated at Kew the drawing now reproduced was made in 1860, and who states that it is not uncommon in the central province of the island, ascending to 4000 feet. It is also, according to Wight, a native of the eastern slopes of the Neilgherry Mountains. Lindley describes it as one of the easiest-grown of Orchids, flowering late, and producing fresh flowers till Christmas; ours bloomed first in January, 1864.”—(*Ibid.*, t. 6246.)

**LEUCOTHOE DAVISIE.** *Nat. ord.*, Ericaceæ. *Linn.*, Octandria Monogynia.—“This handsome evergreen Ericaceous shrub was discovered in 1853 by Mr. William Lobb on the Sierra Nevada Mountains of California at an elevation of 5000 feet. It was sent by him to Messrs. Veitch, and distributed by them under the name of *Leucothoe Lobbii*. It was gathered again in the same tract by Miss N. J. Davis, after whom it was named by Dr. Torrey, and this name has been adopted by Dr. Asa Gray in the Proceedings of the American Academy, and in the valuable work on the botany of California, of which we have just received the first volume. It is the only species of the genus which has been found on the western side of the American continent. From the two well-known and long-cultivated species of the Eastern States (*L. axillaris* and *Catesbeii*), it differs by its shorter nearly entire much less-pointed leaves, and by having its larger and handsomer flowers aggregated into a panicle at the end of the branches. So that, horticulturally, it is a decidedly finer plant, and of course, coming from such an elevation, it may be safely relied upon as quite hardy.”—(*Ibid.*, t. 6247.)

**AGAVE BOTTERII.** *Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia.—“This plant was sent a long time ago from Mexico by M. Botteri to Mr. Wilson Saunders. When this was dispersed it was purchased by Mr. J. T. Peacock, with whom it flowered at Sudbury House, Hammersmith, in the spring of 1875. It is a *Littæa* as regards inflorescence, and, according to his classification, founded on characters, falls into the group “*Subcoriaceæ*,” which combines the small teeth of the “*Aloideæ*,” with a much thinner leaf, with the firmer texture of the large-spined panicked species of the series

of which *A. americana* and *Scolymus* are best known representatives.”—(*Ibid.*, t. 6248.)

**GAMOLEPIS EURYOPOIDES.** *Nat. ord.*, Compositæ. *Linn.*, Syngenesia Necessaria.—“*G. euryopoides* is a native of the mountains of British Caffraria, Uitenhage, and Albany, at about 2000 feet elevation. It was raised at Kew from seed sent by Mr. Tuck of the Grahamstown Botanic Gardens in 1868, and flowers annually on the Cape shelf of the temperate house.”—(*Ibid.*, t. 6249.)

**APPLE.**—*Peasgood's Nonesuch*.—“This is without doubt one of the handsomest autumn Apples in cultivation, and is besides an Apple of good quality. It was raised by Mr. Peasgood of Stamford, and when exhibited at South Kensington in September, 1872, was awarded a first-class certificate by the Fruit Committee of the Royal Horticultural Society. We take Dr. Hogg's description of it from the ‘Fruit Manual,’ which runs as follows:—‘This is very like a very large Nonesuch, and not unlike the Blenheim Pippin when well grown. It is large, 3½ inches wide and 3 inches high, roundish, somewhat oblate, and very handsome. The skin is yellow, overspread on the sunny side with red, and copiously streaked with bright darker crimson streaks. Eye very large and open, set in a deep, round, and even basin, and with short stunted calyx. Stalk short, deeply inserted. Flesh yellowish, tender, very juicy, with an agreeably acid flavour. A fine culinary and dessert Apple.’ This noble-looking Apple has been recently sent out by Messrs. W. & J. Brown of Stamford. Besides the certificate at South Kensington above referred to, it gained a first-class certificate at the Show held at the Crystal Palace in September, 1874.”—(*Flor. and Pom.*, 3 s., ix., 181.)

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

WALL trees have been looked over, and all the foreright shoots have been cut off to a leaf or two from the base of each shoot. The very dry weather has rather checked their growth; but there is very little fruit upon either Plums or Pears, so the growth has been sufficient. The Pear trees are trained on what gardeners call the horizontal system of training. Each branch is a cordon, and is spurred in closely, none of the side branches being nailed-in to the wall. There is no summer nailing with these trees, and a man accustomed to the work can go over their dressing very rapidly. The shoots are taken between the thumb and the edge of a sharp knife and are broken off. Some gardeners partially sever the shoots and leave them hanging. This is supposed to prevent the eyes from starting, and it does to a certain extent; but the shoots hanging loose are untidy, and there is not much gain from it, as the eyes at the base of the young wood are not likely to become fruit buds.

Plum, Peach, Nectarine, Apricot, and Cherry trees are trained on the fan system, and this requires a certain amount of young wood to be laid-in annually. This has already been done; but many of the shoots are apt to become loosened by the wind, and some of them grow considerably after the first nailing. These must be nailed-in this month, as not only does it make the trees have a more neat appearance, but the fruit becomes more exposed to the ripening agency of the sun and air. Where Peaches and Nectarines are shaded by the leaves these ought either to be removed or laid aside. If the latter cannot be done the leaves ought not to be stripped off, as this would be injurious to the buds at the base; but they may be cut, leaving part of the leaf, which will perform the same function that the whole one would have done.

Fig trees also require a little attention at this time. The fruit is now approaching the ripening stage, and ought to be exposed to the sun to bring out the flavour. We have always seen the best crops of Figs from trees that have been trained very loosely, the shoots being allowed to hang from the wall. This is perhaps objectionable in some gardens, as loosely hanging shoots are always considered a mark of untidiness. If they are nailed closely in to the wall the knife must be used as little as possible, as the shoots that are trained in now will carry a crop next season.

Vines trained to walls must not be neglected. The lateral growths require a final stopping, and the young wood intended to bear fruit next year should also be stopped if it has grown to the prescribed limit. All such young rods should have sufficient space to develop the leaves fully and allow of some lateral growth. All laterals to be stopped at the first leaf. Dust with sulphur to destroy mildew, and syringe to prevent red spider.

The Strawberry plants are now quite free from red spider and mildew, and a little rain having fallen the plants have been put out in the beds, and we shall water them freely if no more falls. A shallow depression is formed around each plant, and the water is applied through a coarse rose. The plants must not be

neglected at this time, as they require to make a good growth before the month of October. By that time the crowns will be formed. All the plants for forcing have been potted, and the pots placed on bricks in a sunny position.

#### VINERIES.

The early Vines are better furnished with leaves this season than they were last year at the same time. The wood is perfectly ripe; but the longer we can keep the leaves in a healthy state the better for the future welfare of the Vines, for while they are healthy they continue to nourish the buds at their base. If the leaves should be removed from the earliest Vines they must be kept as cool as possible. The weather is now somewhat cooler, but it is still unnecessary to apply artificial heat to late vinerias. It is well to have the fruit fairly ripe by the end of August, and if it is seen that this will not be the case artificial heat must be applied, and the ventilators should be open a little night and day. If there is any appearance of mildew paint the pipes with flowers of sulphur made into a paint with soapy water. The pipes must be made rather hot afterwards, just sufficient to fill the air with the sulphur fumes. Sulphur is by far the best agent to destroy mildew; but when the fungus has spread over the leaves and fruit very extensively, all the affected parts ought to be touched with the sulphur. But no good gardener would allow his Vines to get into such a state, but on the first appearance of the enemy he would take steps to check its advance.

The trellises of our late vinerias are quite covered with the growth of the Vines, and all lateral growths that are made now are removed by pinching them closely. Both outside and inside borders should be watered if necessary. The Grapes will not colour well, nor will they be of good flavour if the Vines suffer for want of water. Ripe Grapes are a prey to wasps and bluebottle flies at this season, and we have tried different ways to protect them from their attacks. Medicated bags or bags of any material are bad; the Grapes are more liable to decay in them, and you require to be constantly taking the bags off to examine the fruit, else you may find some of the best bunches a mass of decay. Beer in bottles wasps do not prefer to ripe Muscats; indeed no syrups are so attractive as the ripe fruit. Scott's poison is no use whatever. By far the best way—and it is most effectual—is to keep the wasps outside the house, and this is easily done by fastening gauze over the ventilators. Hexagon netting lasts a long time, and the meshes are large enough to admit plenty of air, and sufficiently small to keep out flies of the bluebottle type. All decaying berries are promptly removed.

#### CUCUMBER AND MELON HOUSES.

Melons sown last month will have made rapid growth, and when the roots have fairly filled the small pots into which they were potted the plants may be turned out into the border. They are usually about 6 inches or a foot high when they are planted. Some sorts, such as Turner's Scarlet Gem, make compact short-jointed growth; others, as Trentham Hybrid, make long-jointed weakly growth, and the one would be much taller than the other at planting-out time. For the latest planting it is better not to have any manure in the soil, nor should the beds be very large. Good turfy loam of a medium clayey texture pressed in firmly will grow the plants well. If the loam is of a retentive nature a little leaf mould mixed with it will be very beneficial. When the soil is rich the fruit is not likely to be highly flavoured. In summer a richer loam is desirable. Plants in full growth and on which the fruit is set should have the laterals thinned out, and those that remain should be stopped a leaf or two beyond the fruit, and this must be done before they become crowded; the fewer the leaves and growths that are removed at one time the better. Ripening fruit must not be entirely shaded by the leaves; in northern districts it may be fully exposed to the sun, but a slight shade is better with us in the south.

Our Cucumbers have been in bearing since March. We shall now either sow seeds and have the old plants removed, or raise plants from cuttings. If only one house can be devoted to Cucumbers it will be necessary to grow the plants on in large pots, say 10 or 11-inch, until they are nearly in a bearing state, so that there may be no break in the supply. We do not give the plants a very rich compost at this season; if it is found that more support is necessary it may be given in the form of surface-dressings. The Cucumber plants when growing freely greatly enjoy this surface stimulant, the young roots working into it at a rapid rate.

#### PLANT STOVE AND ORCHID HOUSES.

We have now a change from the scorching hot weather of July. On several days the weather has been cloudy with rain occasionally, and the nights are colder, the atmosphere is heavier and moist, a different treatment is therefore necessary. The shading requires to be removed earlier at night, nor is it necessary to shade so early in the morning. Plants with leathery leaves, such as *Stephanotis floribunda*, *Ixoras*, &c., ought not to be shaded at all after this; and to do such plants justice a house ought to be devoted to them at this season, as the largest proportion of stove plants cannot safely be exposed to the direct

rays of the sun; those that can be so exposed require it to ripen the wood, so that it may the more perfectly produce flowers next season.

We have still been repotting specimen plants, but it is now time that all such work be brought to a close, as the pots ought to be pretty well filled with roots before the cold damp days of autumn set in. Amongst others *Anthurium Scherzerianum* has been repotted. This plant has thick fleshy roots, and they ought to be preserved as much as possible during the operation. The plant requires plenty of pot room, and about 2 inches of space should be allowed between the pot and ball of roots. The best potting material is tough fibrous peat, to which has been added a third part of fresh-chopped sphagnum, some potsherds, and pieces of charcoal; the pot ought also to be filled quite one-third of its depth with clean drainage. We do not care to repot Orchids after this time, but some of the species may require fresh compost. The best time to pot Orchids is when the roots start into active growth. Like the rest of the stove plants, they do not require so much moisture at this season, and to ripen their growth they have as much sunshine as they will bear with impunity.—J. DOUGLAS.

### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

FILEY. August 11th. Mr. Walter Fisher, Hon. Sec.  
OTLEY. August 12th. Mr. Alfred Suttle, Hon. Sec.  
CLAY CROSS. August 15th. Mr. J. Stallard, Clay Cross, near Chesterfield, Sec.  
EWSWORTH. August 15th. Mr. H. Moore, Hon. Sec.  
WESTON-SUPER-MARE. August 15th and 16th. Mr. W. B. Frampton, Sec.  
PRESTON. August 16th and 17th. Mr. W. Troughon, Hon. Sec.  
SHREWSBURY. August 16th and 17th. Admitt & Naunton, Hon. Secs.  
LEDBURY. August 17th. Mr. J. B. Masfield, Hon. Sec.  
NORTON, NEAR STOCKTON-ON-TEES. August 18th. Mr. C. Turner, Sec.  
MIRFIELD. August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.  
CALNE (Wilts). August 22nd. Mr. H. Blackford, Sec.  
NEWBURY. August 22nd. Mr. H. Seymour, Hon. Sec.  
BANTREY. August 22nd. Mr. J. W. Fritchley, Hon. Sec.  
DORSET COUNTY. August 23rd (at Dorchester). Mr. A. Pope and Mr. C. Parsons, Secs.  
CHEPSTOW. August 23rd. Mr. R. Thorn, Hon. Sec.  
CARSHALTON, WALLINGTON, AND BEDDINGTON. August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.  
LARGES AND FAIRLIE. August 25th. Mr. D. G. Glen, Hon. Sec.  
SANDY. August 25th. Mr. E. T. Smith, Hon. Sec.  
SEATON BURN. August 26th. Mr. R. Richardson and Mr. W. Elliott, Secs.  
ISLE OF THANET (MARGATE). August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.  
SHIRLEY, MILLBROOK, AND FREEMANTLE. August 30th. Mr. Jennings and Mr. Squibb, Hon. Secs.  
POCKLINGTON. August 31st. Sec., Mr. J. E. Ross.  
YARMOUTH. August 31st. Mr. E. Aldred, Hon. Sec.  
THORNTON HEATH. September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Besham Manor Road, Thornton Heath, Hon. Sec.  
MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.  
DUNDEE (International). September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.  
GLASGOW. September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.  
ROYAL CALEDONIAN HORTICULTURAL SOCIETY. September 13th.  
KILMARNOCK. September 14th. Mr. M. Smith, 11, King Street, Sec.  
IPSWICH. September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.  
NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.  
LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

LIST OF ROSES IN POTS (*I. A. P.*).—You will find a list with cultural directions in a recent number, No. 791 New Series.

TACSONIA FLOWER BUDS FALLING (*A Lady Amateur*).—Want of moisture in the soil and air is the probable cause.

EARTHENWARE LABELS (*Newton*).—We have just seen some which are manufactured by Messrs. Hooper & Co., Covent Garden. They are white and handsome, and an indelible ink is provided, but they can be written on with a lead pencil.

DARK ROSE.—SOIL FOR ROSES (*X. Y. Z.*).—Alphonse Damaizin is deep crimson; Triomphe de Paris is purplish crimson. The best soil is a rather strong loam; the deeper it is the better. It should be well drained. Such land as will grow good Wheat or good Hops will grow fine Roses. Next, it



should be rich to grow them fine; if not already so, it ought to have thoroughly decayed dung added to it. A portion of superphosphate of lime (bones dissolved in oil of vitriol) will be of great benefit to them.

**CIDER (J. F.).**—Its quality varies as much as that of wine, and the variation is occasioned by the soil and climate as well as the kind of Apple from which it is made. Five centuries ago cider made from the Pearmain was preferred. Thus in the reign of Edward I. "Walter de Heven held the manor of Runham in the county of Norfolk of the king, rendering to him two measures (mutarum) of wine made of Pearnains."

**SEEDLING GLOXINIA (J. W. A.).**—The colour is crimson, but no one could say it is meritorious without seeing the plant.

**POTATOES SPROUTING (Somerset).**—Take them up at once and dry them before storing.

**WOODLICE ON CUCUMBERS (W. P.).**—Put slices of potato and a little moss in garden pots in the frame, and kill the vermin that resort to them.

**PETUNIA CUTTINGS (Idem).**—Petunias are easily propagated by cuttings from February to October. The best cuttings are the young tops of rather weakly-growing plants. In spring the cuttings require a gentle hobbed, but in summer and autumn they strike root readily enough in a cold pit or frame. The cutting pots should be drained in the usual way; then place a layer of rich, light, very sandy compost nearly up to the rim of the pot; and lastly, fill up the pot with fine silver sand; then give a gentle watering to make it firm. For the cuttings choose young weak shoots, and cut them off close to a joint, dress off the lower leaves so as to allow about an inch to be planted in the sand, and not more than three or four leaves at the top. Plant them with a short stick, pressing the sand closely to each. The pot may be filled with cuttings in rows across it, or, if space is plentiful, place them out round the edge. Observe that the holes made by the planting stick are filled up with dry sand; it runs more readily into the holes than moist sand would do; then give a gentle watering again, which firmly fastens the sand round each cutting; leave them on the bench for an hour to dry off the surface moisture. After that place them, if in spring, in a gentle hobbed, or if in summer or autumn in a pit or frame; shade from bright sunshine, and water when the surface becomes quite dry. Mind the watering-pot, and do not use it too freely upon cuttings until they are fairly rooted and show evident signs of having made roots and growth. Then give plenty of air and expose them fully. The spring and summer cuttings should be potted-off immediately when rooted; but those struck late in the year may remain in the cutting pots through the winter. When they are potted, whatever may be the period, they should be placed in a frame or pit where they can be shaded and kept close for a few days until fresh roots are produced; let them then be gradually inured to bear the full light and air.

**SEEDLING PANSIES FOR BEDDING-OUT (N. B.).**—The Pansies which you now have in bloom in a cold frame will not be available for making a bed for next year's blooming except by cutting away the flowering shoots gradually, which will encourage shoots from the bottom; but we should take cuttings of the side shoots—not the old hollow flowering stems—at the end of this month or beginning of September, inserting them in good light soil with a free admixture of sand under a hand-glass or in a cold frame, keeping moderately moist and shaded from bright sun. They may be potted off singly in 3-inch pots and wintered in a cold frame, planting them out in spring.

**STOPPING TOMATOES (Alex. Boyle).**—With due supplies of water and liquid manure every bunch of bloom and fruit now produced may remain. We should allow all fruit setting up to the early part of September to remain, as such will swell to a good size, and the fruit, though green, will ripen in a warm room. The fruit remaining after the plants go off from cold should be so treated. After the early part of September we should keep closely stopped.

**COMPOST FOR CYCLAMENS—SEEDLINGS (H. S.).**—Three parts of turfy loam, one part of leaf soil, one part of sandy peat, and half a part each of small charcoal and silver sand, will form a suitable compost. The loam and peat should be broken up small but not sifted, though it may be passed through an inch sieve, and the rough portion used for placing over the drainage in the pots. The plants may now be potted, the size of the pots being regulated by the size of the corms. The pots should be sufficiently large to admit of an inch to 1½ inch of space from the corms to the sides of the pot. They should be placed in a cold frame, kept moist, and shaded from bright sun, with moderate ventilation. The seedlings should be potted off singly and placed in a gentle heat in a frame kept moist and shaded, or in a cold frame kept rather close, removing them to a greenhouse in September or early October. Potted singly in 3-inch pots they will need a shift in the autumn into pots a size larger, and the strongest will flower next spring; but to do this the plants will require a warm greenhouse.

**CULTURE OF BERTOLONIA SUPERBISSIMA (A Novice).**—It will only succeed without a glass in a moist and warm stove. If the stove be very airy it will be desirable to confine the glass, as this plant is impatient of a dry atmosphere. Bright light is also prejudicial to it, a subdued light being necessary to bring out its colours. It is one of the most beautiful of fine-foliage plants, and we have never seen it so well grown as under a bell-glass in Mr. Bull's nursery.

**PINE PLANTS NOT SHOWING FRUIT (C. B.).**—The reason that your Pines do not show for fruit is either that you have grown them on without a resting period or overpotted them. If the bottom heat is kept up at the highest point the plants have no resting period. They ought to be kept rather dry at the roots, and in a temperature of about 55° for six weeks or two months before starting them into growth. Ten and eleven-inch pots are quite large enough for Queens. This sort is about the worst for fruiting in winter. Smooth-leaved Cayenne and Black Jamaica are the best.

**VINES NOT FRUITING (A. G.).**—If the growth is very strong this year and the wood well ripened you will have plenty of bunches next season. It is not good culture to allow the laterals to grow as much as they like; you should pinch them back, as has been so frequently recommended in this Journal. When there is too much lateral growth the eyes from which the fruit will come next year have a lean and starved appearance instead of being plump and well developed.

**VINES ATTACKED BY RED SPIDER (A. B. V.).**—This pest can be destroyed in two ways—either by washing it off by syringing the Vines, or by painting the hot-water pipes with flowers of sulphur mixed in warm soapy water to the consistency of thin paint. The pipes should be heated so hot that the hand cannot be held on them more than a second or two; but the right degree of heat must be learned from experience. Thomson on the Vine is the best practical treatise for a young beginner.

**FAIRY RING (N. J. M.).**—As you propose to remove the turf, if you remove

2 or 3 inches of the soil beneath it also, that will eradicate the fungus which causes the ring. If you sprinkled common salt over the ring it would destroy the fungus; it would make the grass brown also, but this would gradually become green again.

**NAMES OF FRUITS (R. C. C.).**—The Pear is Doyenné d'Été.

**NAMES OF PLANTS (L. J.).**—*Funkia grandiflora*. (Harry Vidler).—*Sedum purpureum* probably. (Climber).—*Boussaingaultia baselloides*. (T. R.).—1, *Pellaea cordata* var. *flexuosa*; 2, small cristate var. of *Filix-femina*; 3, *Lycopodium japonicum*; 4, *Nephrodium decursivo-pinnatum*; 5, *Nephrodium Filix-mas* var. *abbreviatum*; 6, *Scolopendrium vulgare*. (G. H.).—They are Begonias, but there are too many varieties for us to name them.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### HEDGEHOGS v. CHICKENS.

I CAN give a similar experience with regard to hedgehogs as "W. W." has detailed on page 83. For some weeks past one old and two young hedgehogs had established themselves in my garden. Thinking they might be of service in killing slugs, &c., I carefully protected them from the attacks of my terrier, which used to hunt them out and carry them on to the lawn for my approval. At last they seemed thoroughly domesticated, and might be seen any evening about dusk patrolling the lawn in search of worms. A few nights ago just before going to bed I heard a great commotion in my fowl yard, where a hen used to brood her ten-weeks-old chickens in a corner on a heap of rubbish. On rushing out with a light I found chickens squatting all about the yard in a great state of fright, and the hen groping her way to the hen house with some of her brood, the rest being huddled in the corner where they slept, screaming vigorously. Close to them on the heap stood one of my young protégés, so ashamed of himself at being caught in such an ungrateful act that he forgot to roll himself up. I killed him, and on his forepaws I found evidence of his guilt. They were quite covered with mortar and rubbish from scratching to get under the hen, while his hind feet were quite clean. There could be no slugs or food fitted for his palate in a heap of broken bricks and lime; and the hen was a particularly bold and fond mother, and I am sure would have never stirred unless a direct attack had been made. It is needless to say that the mother hedgehog and her surviving child were hunted out next night, and safely transferred to a field on the other side of the river, where they can indulge their useful propensities and do no harm to anyone. A neighbour has since informed me that some years ago he also found a hedgehog with a dead chicken in his fowl house. I have often argued with keepers for their preservation, but I am afraid now I must include them among the foes to game.—C. K. E.

### HEWORTH SHOW OF POULTRY, &c.

This was held in connection with the horticultural exhibition in the grounds of Tang Hall, which had been kindly placed by Mrs. Starkey at the disposal of the Committee. The poultry, besides being more numerous than last year, was also superior in quality. Last year the entries numbered 106, while this year they increased to 212. A commendable class of Cochin-Chinas was penned, the other varieties being well up to the mark. A large number of commended cards were required when the Pigeons were judged. The class for Pouters or Carriers was generally commended, while many cages in the Barbs were similarly ticketed. The class for Fantails or Trumpeters, though a small collection, contained some pretty birds, while the show of Antwerps or Dragons was a very fair one. The Rabbits were good. Amongst the class for buck or doe of any variety as many as nine commended cards were distributed. The Cage Birds were, on the whole, not a first-class lot, though the Dark-crested Canaries were very good. The evenly-marked Canaries were only moderate, but the Clear Yellow and Buff were superior birds. The prize birds in the class for Crested Yellow or Buff richly deserved the honour awarded them, as did also the two birds which formed the Bullfinch class. Though a success in the number and quality of the exhibits in each department, the financial success of the Show was considerably marred by the unpropitious weather which prevailed in the afternoon.

**JUDGES.—Poultry:** Mr. Joseph Walker, Birstwith, Ripley. **Pigeons:** Mr. George Fletcher, Acorn Landing. **Rabbits:** Mr. R. Dobson, York. **Cage Birds:** Mr. George Clarke, Scarborough.

### DRIFFIELD AGRICULTURAL SOCIETY'S SHOW OF POULTRY, &c.

This was a good Show, and the greatest improvement had been effected by securing Turner's pens in place of the dirty old skeps which had been used previously. Unfortunately the weather was wet, and there being no covering the birds were sadly wetted while judging, and it would be well to secure a tent for future shows.

*Brahmas*, first Light, and second Darks. *Spanish* poor, but the prize-winning *Game* good. In *Hamburgs* were a few good birds, notably the first Gold-pencils. *Bantams*, first and second Blacks. In the Variety class Gold Polish were first, Black *Hamburgs* second, and Guinea Fowls third. *Ducks* nothing of special note except Messrs. Sylvester's birds of the ornamental variety.

*Pigeons* suffered much from exposure and were very difficult to judge. Mr. Baker, taking the Show on his way from Bramley, made the Show much better. Carriers, Mr. Baker was first and third with well-known birds. Pouters, first Blacks, second Whites, and third Blues, very good and well placed. Jacobins, Red, good in hood and chain properties, but rather low cut. Fantails a nice lot. Tumblers, first and third Almonds, and second Whites. Dragons, first and second Blues, and third Silvers. In Turbits a local breeder had eleven entries, but Mr. Baker ran away with the first with grand Silvers. In the Variety, first were Trumpeters, second African Owls, and third Darbs.

**POULTRY.**—BRAHMAS.—1, T. P. Carver. 2, W. H. Garford. *Cock*.—1, J. Walker. *DORKINGS*.—1, W. Lesson. 2, R. Smith, jun. *Cock*.—1, D. White. SPANISH.—1, R. Stabler. 2, G. Pounder. *GAME*.—1, W. & H. Adams. 2, J. A. Staveley. *Cock*.—1, W. & H. Adams. 2, G. Holmes. *CHICKENS*.—1, W. & H. Adams. 2, J. A. Staveley. COCHIN-CHINA.—1, C. J. Young. 2, W. Santon and A. Spencer. *Cock*.—1, R. Stabler. HAMBURGHS.—Golden and Silver-spangled.—1, G. Holmes. 2, P. Carver. *Cock*.—1, T. P. Carver. Golden and Silver-pencilled.—1, P. Carver. 2, G. Holmes. *Cock*.—1, T. P. Carver. EARLYARD CROSS.—1, G. Pounder. 2, R. Stabler. *Cock*.—1, G. Robinson. BANTAMS.—*Game*.—1, R. Stabler. *Cock*.—1, G. Pounder. 2, W. Dixon. Any other variety.—1, T. P. Carver. 2, C. J. Young. *Cock*.—1, G. Holmes. ANY OTHER VARIETY.—1, A. & W. H. Silvester. 2, T. P. Carver. 3, W. G. Purdon. *Cock*.—1, A. and W. H. Silvester. 2, T. P. Carver. ANY BREED.—*Chickens*.—1, W. Moritt. 2, P. Stamford. 3, W. H. Garforth. SPECIAL SELLING CLASS.—*Cock*.—1, O. A. Young. 2, H. M. Julian. 3, J. Walker. *Hens*.—1, R. Stabler. 2, T. P. Carver. 3, W. Moritt. GEES.—1, W. H. Garforth. 2, C. J. Young. *Goslings*.—1, Mrs. D. Robinson. 2, C. J. Young. TURKEYS.—1, T. P. Carver. 2, W. H. Garforth. *Poult*.—1, W. H. Garforth. *Ducks*.—*Aylesbury*.—1, W. Piercy. 2, C. J. Young. *Ducklings*.—1, W. Piercy. *Rouen*.—1, G. Garbutt. 2, T. P. Carver. *Ducklings*.—1, W. H. Garforth. 2, R. Smith. Any other variety.—1 and 2, A. and W. H. Silvester. *Ducklings*.—1, W. Moritt.

**PIGEONS.**—CARRIERS.—1 and 2, J. Baker. 3, F. Hodgson. CROPPERS.—1, E. A. Thornton. 2, Mrs. J. Blanchard. 3, J. Baker. JACOBINS.—1, J. Blanchard. 2 and 3, J. Baker. FANTAILS.—1 and 2, J. F. Loversidge. 3, J. Walser. TUMBLERS.—1 and 2, J. Baker. 3, H. Yardley. DRAGONS.—1, R. Woods. 2, C. E. Chavasse. 3, R. Woods. NUNS.—1, T. S. Stephenson. 2, P. R. Spencer. TURBITS.—1, J. Baker. 2 and 3, Pickering & Duggleby. ANY OTHER VARIETY.—1 and 2, J. Baker. 3, C. Wroot. SPECIAL SELLING CLASS.—1 and 2, J. Blanchard. 3, E. Hudson.

**RABBITS.**—LOPS.—1, P. Pepper. 2, W. H. Horner. *Ac.* A. Horner. ANGORA.—1, H. Sweetman. 2, J. Jewison. HIMALAYAN.—1, M. Lowish. 2, G. Copley. ANY VARIETY.—1, J. D. Eames. 2, C. C. Foster.

Mr. Cannan judged all except Game and Game Bantams, which were judged by Mr. Smith.

### HORTON SHOW OF POULTRY, &c.

THE annual Show was held on the 5th inst., and was in all respects similar to its predecessors. Fortunately the weather was much better than last year, and the birds being shown in the open field this was very fortunate.

*Game* were a moderate lot, the cup going to a pretty good Black Red cock that has often won of late. Cockerel and pullet *Game* were first Duckwings, and second Brown Reds; the first a nice well-grown pair. *Spanish* and *Bantams* pretty good. The Blacks were first and second. *Hamburgs* were small entries, but the birds very good. The cup given by Mr. Ackroyd was awarded to a pen of Buff Cochins.

*Pigeons* had more entries than poultry, the cup being awarded to a Yellow Barb cock. Blacks won in Carriers. The cup birds at Saltaire were rightly left with only a commendation. Dragons—first Silver and second Blue. English Owls a fair lot, Blues winning. Turbits—first Silver and second Yellow, the latter the best. Antwerps with six classes had only thirty-four entries, which we look upon as very poor with £1 and 10s. as prizes in each class; the birds were, however, the pick of the Yorkshire birds. The Variety class had twenty entries—first, a Mottled Tumbler and second Red Jacobin.

*Rabbits* had three classes, with twenty-four entries. Lops were poor. Himalayans were very good. Pen 3 (highly commended) was very small and young, but otherwise best. Any other variety—first a young Silver-Grey buck, second an Angora. One Dutch was shown, and the rest were Angora and Silver-Grey, the latter very good. Mr. Firth's well-known doe was left out.

**POULTRY.**—*Game*.—Brown Red.—*Cock*.—1, E. Lund. 2, C. Thornton. Black Red.—*Cock*.—Cup and 1, R. Hemingway. 2, H. C. & W. J. Mason. Black or Brown Red.—*Hen*.—1, J. W. Thornton. 2, E. Lund. Any other variety.—*Cock*.—1, H. C. & W. J. Mason. 2, W. Milner. *Hen*.—1, H. C. & W. J. Mason. 2, H. Wood. Any variety.—*Chickens*.—1, T. Dyson. 2, W. A. Fenwick. SPANISH.—Black.—1, J. Powell. 2, H. Beldon. COCHIN-CHINA.—1, W. Mitchell. 2, C. Sedgwick. BRAHMA FOOTER.—1 and 2, W. Schofield. ANY VARIETY EXCEPT *GAME* AND HAMBURGHS.—*Chickens*.—Extra and 1, C. Sedgwick. 2, J. M. S. Karratt. HAMBURGHS.—Silver-spangled.—1 and 2, H. Beldon. Silver-pencilled.—1 and 2, H. Beldon. Golden-spangled.—1 and 2, H. Beldon. Golden-pencilled.—1 and 2, H. Beldon. Black.—1 and 2, H. Beldon. Any variety.—*Chickens*.—1, C. Sedgwick. 2, G. Moore. ANY OTHER VARIETY.—1 and 2, H. Beldon. BANTAMS.—*Game*.—1, W. F. Entwistle. 2, A. S. Sugden. *Cock*.—1, J. Blamires. 2, H. Wood. Any other variety.—1 and 2, C. & J. Illingworth. *Ducks*.—1, J. Newland. 2, J. R. Pollard.

**PIGEONS.**—CARRIERS.—*Cock* or *Hen*.—1, H. Yardley. 2, J. Cockitt. DRAGONS.—*Cock* or *Hen*.—1 and 2, R. Woods. OWLS.—English.—*Cock* or *Hen*.—1, E. Thresh. 2, W. Ward. 3, R. Woods. TURBITS.—*Cock* or *Hen*.—1 and

2, R. Woods. TUMBLERS.—Long-faced.—*Cock* or *Hen*.—1, B. Rawnley. 2, R. Woods. BARBS.—*Cock* or *Hen*.—1 and 2, H. Yardley. ANSWERS.—Long-faced.—*Cock*.—1, W. Ellis. 2, S. Wall. *Hen*.—1, H. Jennings. 2, J. Cockitt. Short-faced.—*Cock*.—1 and 2, W. F. Entwistle. *Hen*.—1, J. Ackroyd. 2, W. F. Entwistle. Medium-faced.—*Cock*.—1, W. F. Entwistle. 2, W. Ellis. *Hen*.—1 and 2, W. Ellis. BIRD FOR FLYING PURPOSES.—1, H. Jennings. 2, W. Ellis. ANY OTHER VARIETY.—1, H. Yardley. 2, T. Holt.

**RABBITS.**—LOP-EARED.—*Buck* or *Doe*.—1, W. T. Millett. 2, A. Hawley. HIMALAYAN.—*Buck* or *Doe*.—1, Townell & Chappell. 2, H. Berry. ANY OTHER VARIETY.—1, Miss Firth, J. Firth. 2, R. Murgatroyd.

JUDGES.—Messrs. Dixon and Charlton.

### CLEVELAND SHOW OF POULTRY, &c.

THIS Show was held at South Stockton on the 27th ult. in connection with that of agriculture. The list was a fair one, but other shows interfering the entries were not numerous. As usual a tent was provided, and the pens were well arranged.

*Spanish* were a fair lot. The first-prize *Dorkings* were very good; and in *Cochins* were three splendid pens. In *Game* Reds the winners were Brown Reds, and in single cocks first was a capital Brown Red. *Game Bantams*, first very stylish Black Reds. In *Hamburgs* first Gold-pencils very good, the Silvers only moderate. Variety class first Malays, and second Houdans, the latter very large.

**POULTRY.**—SPANISH.—Black.—1, H. Dale. 2, T. Flintoff. *DORKINGS*.—1, T. P. Carver. 2, E. Barker. *COCHINS*.—1 and 2, G. H. Preator. BRAHMAS.—1, T. P. Carver. 2, G. B. Bell. *GAME*.—Reds.—1, G. Holmes. 2, H. E. Brown. Any other variety.—1, G. Holmes. 2, W. Scott. *Cock*.—1, G. Holmes. 2, Blackburn & Maynard. BANTAMS.—*Game*.—1, W. Britain. 2, G. Holmes. Any other variety.—1, R. H. Ashton. 2, Rev. H. A. Hawkins. *Cock*.—1, R. H. Ashton. 2, G. Pounder. HAMBURGHS.—Golden-pencilled.—1, T. P. Carver. 2, T. & G. Kiddon. Silver-pencilled.—1, G. Holmes. 2, W. Storey. Golden-spangled.—1, G. Holmes. 2, T. P. Carver. Silver-spangled.—1, G. Holmes. 2, J. Ashworth. POLISH.—1, J. T. Frend. 2, Rev. J. G. Milner. ANY OTHER VARIETY.—1, R. Hawkins. 2, Rev. J. G. Milner. ANY VARIETY OF CROSS.—1 and 2, G. Foster. *Ducks*.—*Aylesbury*.—1, F. Waller. 2, W. Stonehouse. *Rouen*.—1, T. P. Carver. 2, Rev. J. G. Milner. Any other variety.—1, R. H. Ashton. 2, Rev. J. G. Milner. GEES.—1, Miss E. Stephenson. 2, G. Pounder. *Goslings*.—1, G. Pounder. 2, C. J. Young. TURKEYS.—1, Miss Kirk. 2, T. P. Carver. *Poult*.—1, Miss Kirk. 2, R. Dodsworth.

**RABBITS.**—LOP-EARED.—1, W. Bulmer. ANY FANCY BREED.—1, S. S. Robinson. 2, W. Bulmer.

Mr. Cannan judged.

### OSWESTRY POULTRY SHOW.

UNDER great patronage the Oswestry Show was held this year in Brynlyn Park in a large tent. The pens were all on one tier, and their inmates were well cared for, the birds coming from a distance being speedily packed-up and dispatched at the close of the Show.

*Game* were as usual strong classes, and the quality was good, though many birds were out of feather from the time of year. The Brown Reds were better than the Black Reds, a good pair winning, the cock stylish and smart in head. The cock in the third-prize pen was a good undubbed bird. In Duckwings a smart pen was first, the cock good in shape and style; good chickens won third. *Dorkings* mustered fairly; the first-prize were a fine pair of dark birds, but the earlobes rather too white; the second-prize pen had a moderately good cockerel; 26 (Darby) was empty. In variety *Dorkings* excellent Silver chickens were first, the pullet a very promising bird; second also went to Silvers, the cock being of fine colour for the time of year, though not a large bird; 32 (Badger) empty. Partridge *Cochins* only mustered two pens of moderate quality. In Buffs the first cock was very shapely, but rather pale on wing; his companion was also good in shape, but had a very ugly comb. Second went to well-grown chickens; the pullet, however, seemed loose in wing. The third cock was pale in colour, and we liked either of the highly commended pens quite as well. In the next Cochins class good Blacks won first and second with really very little between them. The first cock was a little high in tail, and his hen not sufficiently leg-feathered. Third went to Whites; the cock the fine bird which won first at Bristol, with a hen of much quality, but not very clean; 41 (Boissier) a moderate pen only. *Spanish* were only small in numbers; first and second good pens, but rather wrinkled in face; third not superior, and of bad colour in face. In Dark *Brahmas* we found a good pullet in the second pen. Lights were good, and the first were large and well feathered; second went to capital chickens; third also a good pen, but the cock was too yellow. In Pencilled *Hamburgs* a smart pen of chickens (Silvers) were first. In Spangles Gold were first and third, Silvers second. In *Houdans* the first were large, but the cock had a swollen toe; 68 (Naylor) empty; second prize went to forward chickens. In the Variety class all the prizes went to White-crested Black Polands, and capital pens they were. This well illustrates our remark of last week, that the breed is rapidly gaining ground in quality and popularity. The first cock was a gem; he had the most perfect crest for colour and shape possible, and was in fine trim; second were also good, but the cock rather yellow in crest; the third contained an exquisite hen with a perfect crest. In *Game Bantams* a good pen of Brown Reds won first, Black Reds of fair quality second, and Duckwings third; while in the next class capital Silver-laced were first and



loosens and rots the quills, and encourages a continual pecking at and mutilation of the feathers by the birds. When meat is supplied (only occasionally) it should be either on the bone of a rabbit or fowl, which said bone should be pretty well polished of the meat before it is given to the Parrot, for the trouble and exercise it would afford Polly in denuding the bone of what little it had on would really do the bird more good than if a free use of meat was otherwise placed before it.

Those who keep Parrots for their amusement should understand that it is their duty to amuse them and make the birds as familiar as possible. Let the word "kindness" be the keeper's watchword in guiding them in their duty, allowing no one to disconcert or harshly treat "poor Polly." One matter which we have often noticed neglected is the placing of a Parrot in a cage with only a bare perch for it to amuse itself with. In a cage where there is much woodwork a Parrot will soon show proof of its wood-carving propensity. Indestructible metal cages are preferable, with a swing for the bird. One of the most amusing Parrots we have come across (a tolerable chatty bird too) had suspended from the top part of the cage a couple of chains, each a foot long, with which it was interesting to see the bird climb up and swing by. The chains were first suspended inside the cage by chance, owing to them slipping betwixt the wires when the cage was detached from the ceiling to be cleaned out. They were ever afterwards allowed to hang inside the cage, much to the pleasure of the Parrot. The bird found continual amusement thereby, and was kept in good action by its irregular movements. No doubt this conduced to its general good health.

We have not much fault to find as to your general treatment, but we would prefer soaked Indian corn and bread and milk as the staple food, with meat or fruit occasionally for a change. Some use their birds to hemp seed, others to bread and milk, and we have noticed, out of many hundreds we have come across, birds apparently enjoying good health under various treatment as to diet. We much approve of occasional shower baths for Parrots. By all means discontinue the use of butter; bread soaked in milk is far preferable. The stomach of your bird is in a weak condition, and butter will increase the vomiting which occurs over the disease your bird is suffering from. Give the sufferer two or three drops of castor oil twice a week, and a shower bath every other day, after which latter administer a little weak brandy and water, and then dry the bird gently before a fire. If the bird will permit you to handle it, all well and good, but if it bites cover your hand with a cloth and lay firm hold of the back part of the bird's neck whilst giving it the castor oil. A little piece of pine apple or other ripe fruit may also be given.—*GEO. J. BARNESBY.*

## POULTRY AND BEE NEWS AND QUERIES.

**SEPARATING HONEY FROM WAX.**—Put the honey, comb and all, in a tin pan on a moderately warm stove, adding to each pound of honey a tablespoonful of water. Stir it occasionally with a piece of wire when the contents of the pan are perfectly liquified. It must not boil. Set it where it can cool undisturbed; then pass a knife carefully around the pan to detach the cake of wax on the top, and rapidly with great care lift off the cake. Don't let it drain into the pan an instant, but place it in another utensil. Anyone thus clarifying honey will find, on putting aside the cake of wax, that the impurities that would otherwise have to be strained from the honey will have adhered to the cake of wax, while the honey beneath is clear. If the honey should in time candy, heat it again with a very little water and brown sugar. Keep it in jars tied up in a cool place. Break up the wax cake and wash it in cold water till cleansed of honey; then melt and strain it. To bleach the wax, boil it, after straining for an hour in plenty of water, in which use a few drops of chloride of soda. When quite cold lift off the wax and leave it to dry and whiten in the open air.—(*Housekeeper.*)

## HONEY HARVEST.

To commence the season I had four stocks in round wooden hives 16 inches by 12, and five of last year's swarms in home-made bar-frame hives 18 by 16 inches, and 11 inches deep; and the weather last summer was so bad about here that after June went out the bees could not gather as much as would keep them. Consequently my new hives were not nearly half filled with comb; but I lost none during the winter, and by feeding this spring till the middle of May I managed to keep them all alive. But there was very little done with them till the third week in June, and then they began to work in earnest. The round hives that were already full of comb were quite filled with honey and brood by the end of the month. I put glasses on three old hives the last week in June, and the bees began working in them at once. I had the first swarm on the 3rd of July, and two other old hives about ten days later.

I have seen it stated in bee books that after the bees have swarmed it is no use leaving the glasses on; but I left mine on,

and they have filled two of them since. The one that swarmed on the 3rd of July I drove on the 23rd, and as it was the first time I have tried driving I was agreeably surprised to find it such easy work. The contents of the hive weighed 49 lbs., and there was 23 lbs. of splendid honey in the glass, making 72 lbs. for that lot of bees. The same day I took a 10-inch glass off one of the other old hives and put another one on. It was quite filled with beautiful white comb, sealed all over, and weighed 18 lbs. nett. I intend driving the bees from that hive and the other one that has swarmed this week, and they feel quite as heavy as the first one. My bar-frame hives are all quite full, and are very heavy, but only two of them have begun work in the super. When would be the best time to take some honey from them? And last Sunday I saw that one of the others had cast out some young unhatched drones, and last night I saw some outside another hive.

Your readers do not need to be at a loss for a pair of good bee gloves. My wife made me a pair in five minutes at a cost of about one penny, and with them I am quite safe from bee stings, and besides can handle and use anything I may require in my operations with the bees. They are simply two strong calico bags made wide enough to spread the fingers inside, and long enough to tie well over the cuff of the coat, with a pad of wadding or any similar material stretched inside to come over the back of the hand. They are not very handsome to look at, but they can be taken off sooner than one can reduce the swelling from bee stings.—*G. G., Billinge, near Wigan.*

## FRAME HIVES AND THE EXTRACTOR.

FROM all parts come the glorious news of an extraordinary glut of honey, one gentleman (of whom probably more anon) writes to me that he has sent away 500 lbs., 200 lbs. just going, and he has twice as much left! Up to the middle of June the bees did nothing (except in favoured localities from the fruit blossoms), then all at once with the brilliant summer weather the hives and supers filled fast, and until towards the third week of July the busy little workers literally toiled themselves to death. Now with us, where there is no heather, the harvest is over, and the sooner it is gathered the larger it will be found.

Now comes the advantage of frame hives and the extractor. Our American friends incline to the opinion that stocks that are wintered on sugar syrup are much more likely to survive till spring than stocks which are allowed their own stores. There is probably reason in this, as much honey is infected with the germs of foul brood, and when extracted and replaced by pure sugar the latter is, of course, likely to be more wholesome for the bees. Independent of this theory, we know that syrup is acceptable and good food, and as at the present free-trade price of sugar it can be made at less than 3d. per lb., and honey is saleable at three or four times that price, it is true economy to make the exchange. The extractor has been familiar to me in the hands of others for two or three years, but this season for the first time I have owned one, which was exhibited last year at the Crystal Palace by Mr. Cowan, and right well has it done its work. The combs subjected to its influence have been completely emptied of honey, and with proper care no injury need be done to the brood. Of course, a careless workman may turn so fast that the unlucky brood will come out with the honey, or so slowly that nothing comes out; but there is a rate of speed soon discovered which is sufficient to fling out the heavy liquid and not interfere with the lighter larvae. My machine having done duty at home is now on its travels to my friends, several of whom have expressed their delight and satisfaction at the abundance of honey it places at their command.

There is another advantage which is very patent after using the extractor to strong stocks. I speak of the impetus it gives to breeding, and I will instance a stock which had given me a super, on the removal of which I found the combs below full to repletion of brood and honey; the latter I at once extracted. The now emptied outside combs which had no brood were placed nearer the middle, and also a judicious distribution was made of the other combs that had many empty cells. In a few days the queen had taken possession and filled nearly every cell with eggs, so that the hive is now full from end to end of the embryo population for the winter, one of the most essential things for wintering being that the bees shall be young and vigorous, for a stock to be made-up of old bees for winter is simply dooming it to destruction. By keeping a hive full of brood in this manner it is easy by exchange of combs from it to assist a weaker stock, or one where the queen is not sufficiently prolific.

In regard to many queens I feel convinced their breeding powers are not utilised to the utmost, and that they lay vast numbers of eggs out of the cells, which fall to the ground and are wasted. This is especially the case where empty cells are scarce. I have many times seen a queen hopelessly walking about apparently dazed, and presently an egg would appear and drop from her. I have seen it directed as a means of ascertaining if a stock or swarm has a queen, to set it overnight on a black



cloth, and if a queen is there eggs will be found in the morning on the black ground. Certain it is that in June last I found abundance of such dropped eggs in a cloth that had been tied round a skep containing a swarm.—JOHN HUNTER, *Eaton Rise, Ealing*.

## FILLING SUPERS AND FRAMES WITH HONEYCOMB.

MR. HUNTER says that "Mr. Pettigrew's idea of filling small frames with such combs [honeycombs cut from honey hives] and then giving them to the bees to clean and fix will be found a failure. The bees' first and only idea would be to fill their hive, and to do this they will very quickly empty the strange combs. I have tried it and know it fails, although I gave them a much better chance than Mr. Pettigrew promises with his unfurnished hive." This is very plain and honest language, and I am sure that Mr. Hunter and the readers of the Journal will now permit me to speak as plainly and honestly as he has done. He has not tried my plan, and therefore does not know that it will fail. I have tried it again and again, and in my hands it never fails. The two instances that Mr. Hunter brings into view are not to the point at all. He presented strange combs and new honey to full hives. He might have anticipated failures, for this was a temptation too strong for any bees, for they instinctively fill their own hives, and will carry honey both upwards and downwards and from every quarter to fill their own combs. But if they have no combs of their own to fill what will they do with the honey given to them? Where will they carry it to? Mr. Hunter has yet to consider this question, and try an experiment or two. Shall I be permitted to suggest one or two which may be of considerable and permanent importance to bee-keepers generally?

1. Let the frames of a hive be filled artificially as well as possible with honeycombs cut from honey hives, and placed over a good swarm in an empty hive. The bees will not carry an ounce of honey below. Instead of doing this they will commence fixing the combs in the frames, and if honey in quantity be given to them in the bottom (empty) hive, they will carry it aloft and store it in the combs thus given to them. This is a very short and easy way of filling frames with virgin honeycomb, and I sincerely trust that many poor bee-keepers will by it be enabled to convert their honey hardly saleable at 10*d.* into a form readily saleable in any market at 1*s.* 6*d.* per lb.

2. Let a super of any kind or size be filled with honeycomb, sealed or unsealed, and placed in like manner on a swarm of bees in an empty hive, and fed with honey either extracted or in broken combs. All the honey will be carried aloft, and the super will be found unobjectionable from every point of view, and saleable in any market. This is not an idea as Mr. Hunter calls it, it is an old practice which I unfolded in the pages of this Journal three or four years ago. In the interest of bee-keeping, for the advantage of both amateurs and bee-farmers, I ask that these experiments be widely tested.

Experience after all is the best teacher, and sure am I that those who demur at my plans will yet believe in the possibility of filling bar-frames with honeycomb artificially, and filling them as easily with full combs as those at the Crystal Palace first show were filled with tough black old combs. Notwithstanding Mr. Hunter's present "positive negative," I believe he will become a robust and able teacher of the practice. Beyond this he and others will go and learn another lesson—namely, that it is possible to prevent bees from carrying honey from supers artificially given to them. At present they are not able to bear it.—A. PETTIGREW.

## OUR LETTER BOX.

**PACKING HONEYCOMB (J. C.).**—Honeycombs cut from hives are not easily packed for travelling. In cutting the combs out they should be first laid on some kind of wickerwork or basket lid, to let the honey from the broken cells drain into a vessel beneath. In a couple of hours they could be packed in boxes on their edges or in their natural position, touching and supporting one another. We fill handled baskets thus for delivery by messengers. If we were sending 40 or 50 lbs. in a box to a distance we should pack the combs as they are built in hives, throw a swarm of bees amongst them, and lid them down for thirty-six hours. The bees would lick the combs dry, and fasten and prepare them for travelling. "J. C.'s" own ingenuity will help him more than anything we can say.

**BEE MANAGEMENT (E. M. E.).**—You have a very correct knowledge of the management of bees, and we are pleased to hear of yours doing so well this season, which as a whole has not been a favourable one for honey-gathering. As Nos. 1 and 2 of your stock are in hives inconveniently large and heavy for a lady, you may drive their bees out now and take their honey. The brood in them will be sacrificed, but by putting the swarms into smaller empty hives and feeding them well for a few days fresh combs would be speedily built and filled with brood. When the super on No. 3 shall be filled take it off and drive the bees of the hive into an empty one, and feed them into a stock, or unite them to the bees of 1 or 2. No. 4 will be strong enough without any extra bees—at least, stronger than any of the rest. Nos. 1 and 2 should be killing their drones now.

**HIVING A SWARM (Mrs. Elvington).**—You can certainly now drive the swarm you speak of with safety; only be careful in the act of driving, espe-

cially if the weather be hot, as the combs will be more or less delicate and brittle. You will, however, at this time probably find a good deal of brood in it. We should prefer waiting till September.

**TAKING HONEY (Smallwood).**—Your first attempt at taking honey from a hive has not been very agreeable—perhaps not very successful. After driving the bees into an empty hive you should have destroyed the stragglers left behind with sulphur or chloroform, then removed the honey hive indoors, and there take the combs out one by one. The operation is very easy, and well understood by all the cottage class of bee-keepers. Taking and running honey is never a pleasant occupation, but it must be done. We drive our bees into empty hives, sulphur the few remaining stragglers to death, take the honey hives without a living bee in them into a hothouse, and there withdraw the cross sticks, remove the combs into milkpans, and then run the honey. From the commencement of driving to the jarring-up of the honey it takes about an hour to do the work of a hive containing 25 lbs. Though unpleasant the work is simple and easy. The nearest bee-keeper will show you how to do it.

**WAX MOTH (Amateur).**—Usually in this country a strong hive will successfully keep off the wax moth. We know no way of preventing the ravages of these pests except by personally watching for and destroying them whenever they are seen; also we carefully avoid leaving empty comb about. The only way to destroy them in empty hives is to cut out and destroy every comb or part of a comb in which they have taken up their quarters.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Baromet. tor at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1876.										
Aug.										
We. 2	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Th. 3	30.037	64.2	57.8	S.S.	62.6	73.9	46.6	121.8	45.3	0.108
Fri. 4	29.458	6.8	61.8	S.S.	64.0	71.9	58.1	123.1	55.1	0.110
Fri. 4	30.017	61.0	58.0	S.S.	62.6	72.8	53.3	125.3	49.2	0.424
Sat. 5	30.119	63.7	58.6	N.W.	62.4	74.8	55.4	125.4	54.7	—
Sun. 6	30.298	64.5	60.0	W.	62.2	74.1	51.4	125.1	48.9	—
Mo. 7	30.164	67.4	61.0	W.	63.6	82.0	58.3	124.8	55.1	—
Tu. 8	30.172	66.8	63.3	N.W.	65.5	83.5	55.8	124.4	53.0	—
Means.	30.046	64.3	60.6		63.3	76.1	54.3	123.8	51.8	0.642

## REMARKS.

2nd.—Very fine day throughout, but barometer falling rapidly.  
3rd.—Wet morning, but soon clearing off, and followed by a very fine day.  
4th.—Dull though fair in the morning; very showery all the after part of the day; at times the showers were rather heavy.  
5th.—Fine throughout the day, though looking rather stormlike about 6 P.M.; very fine night.  
6th.—Fine day, rather cloudy at times; rain at a distance at 7.30, and a very slight shower here.  
7th.—Rather dull early, but very fine after 9 A.M., and a splendid day, but very hot, though there was a very pleasant breeze.  
8th.—Another very fine day, and very close in the evening.  
No feature calling for special notice, unless it be the uniformity of the maximum in sun—viz., within 1° on four consecutive days, and within less than 5° throughout the week.—G. J. SYMONS.

## COVENT GARDEN MARKET.—AUGUST 9.

PRICES of soft fruit are somewhat lower this week, buyers being pretty well full, and all samples showing signs of the finish. The demand for hot-house fruit is also falling off, while the supply seems as plentiful now as any time during the season. The first Kent Fiberts have arrived.

## FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	6	10	0	Mulberries.....	lb.	0	0	0
Apricots.....	dozen	1	6	8	Nectarines.....	dozen	6	0	21
Cherries.....	lb.	0	6	1	Oranges.....	½ 100	6	0	12
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	6	0	20
Currants.....	½ sieve	8	6	4	Pears, kitchen....	dozen	0	0	0
Black.....	do.	7	0	9	dessert.....	dozen	0	0	0
Figs.....	dozen	3	0	0	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	6	1	Plums.....	½ sieve	0	0	0
Cobs.....	lb.	0	0	0	Quinces.....	bushel	0	0	0
Gooseberries....	quart	0	3	0	Raspberries.....	lb.	0	6	1
Grapes, hothouse..	lb.	1	0	6	Strawberries.....	lb.	0	4	2
Lemons.....	½ 100	6	0	12	Walnuts.....	bushel	0	0	0
Melons.....	each	2	0	8	ditto.....	½ 100	0	0	0

## VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	4	0	6	0	Leeks.....	bunch	0	4
Asparagus.....	½ 100	1	6	6	Mushrooms.....	potlie	1	0	2
French.....	dozen	0	0	0	Mustard & Cress	punnet	0	2	0
Beans, Kidney... ½ lb.	0	6	1	0	Onions.....	bushel	2	0	5
Beet, Red.....	dozen	1	6	8	pickling.....	quart	0	0	0
Broccoli.....	bundle	0	9	1	Parsley.... doz.	bunches	2	0	4
Brussels Sprouts ½ sieve	0	0	0	0	Parsnips.....	dozen	0	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	9	1
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	2	6	0
Capsicums.....	dozen	1	6	2	Kidney.....	do.	3	0	0
Cauliflower.....	dozen	1	0	4	Radishes.... doz.	bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	8	0
Coleworts.... doz.	bunches	2	0	4	Salsafy.....	bundle	0	9	1
Cucumbers.....	each	0	4	1	Scorzoner.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Shallots.....	lb.	0	8	0
Garlic.....	lb.	0	0	0	Spinach.....	bushel	1	6	0
Herbs.....	bunch	3	0	0	Tomatoes.....	dozen	1	6	0
Horseradish....	bundle	4	0	0	Turnips.....	bunch	0	4	0
Lettuce.....	dozen	0	6	1	Vegetable Marrows.....	0	2	0	8
French Cabbage ..	1	0	0	0					

## WEEKLY CALENDAR.

AUGUST 17—23, 1876.

Day of Month.	Day of Week.		Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.
17	Th	Ledbury Show.	72.7	50.1	61.4	4	51	7	17	1	17	6	42	27	8	45
18	F	Norton (Stockton-on-Tees) Show.	73.2	50.7	62.0	4	52	7	14	2	50	7	7	28	3	32
19	S	Mirfield Show.	73.1	49.2	61.2	4	54	7	12	4	24	7	24	29	3	19
20	SUN	10 SUNDAY AFTER TRINITY.	72.8	50.6	61.7	4	56	7	10	5	55	7	38	1	3	5
21	M		72.6	49.7	61.2	4	57	7	8	7	21	7	50	2	2	50
22	Tu	Calne, Newbury, and Bawtry Shows.	71.6	49.7	55.6	4	59	7	6	8	45	8	1	3	2	35
23	W	Burton-on-Trent, Dorchester, and Chepstow Shows.	71.8	49.0	60.4	5	0	7	4	10	6	8	14	4	2	20

From observations taken near London during forty-three years, the average day temperature of the week is 72.5°; and its night temperature 49.8°.

## PLANTING VINES.



VINES are planted in nearly every month of the year. Some approve of planting in early spring; others in summer and autumn. Success to a certain extent may be secured at all times, but there are some periods preferable to others. Planting in spring before growth begins, is perhaps the system most practised. Both root and branch are then in an inactive state, and after planting it often takes a considerable time before the

Vines are fully started into growth. Very frequently when they do begin to grow it is very irregular. One will start a few buds at the bottom of the cane, another will push from the extreme end, and a third may grow freely from every eye. From this it would appear that it all depends on how the roots start into action. Where the whole roots start into growth vigorously robust top growth soon follows; but, on the other hand, where only a few of the roots live and the others perish, as is not unfrequently the case, weak and imperfect leaf and wood development is the result. Of course there are instances where housefuls of spring-planted Vines do well, but cases opposite to this could be mentioned.

May is the month when Vines are generally planted in a "growing state." The Vines are propagated from eyes in February, and grown on until they have a stem a number of feet in length. At this stage the roots are generally in a free-growing condition, and when planted carefully growth continues without ever receiving the slightest check. By autumn the roots have become established in the border, and when heat is applied the following spring every root is ready to begin action without having to settle or find its way into a place. Vines treated in this way are generally as far forward by the end of the first season as spring-planted Vines are by the end of the second season. The present is also an excellent time to plant Vines. Vines which were propagated from eyes in spring will have been stopped long before this, and the lateral growths will be growing freely. At this time the roots are nearly as active as in spring, and to turn them out of the pots and plant them now the roots push into the border and become established before growth ceases. Two vineries which were planted the third week in August last year have made most satisfactory progress this season. The varieties are chiefly the Black Hamburgh, Muscat of Alexandria, Lady Downe's Seedling, Gros Colman, Alicante, and others. Golden Queen, although a weak cane when planted, is one of the strongest now. Duke of Buccleuch (two canes from a root) has been stopped at the top of the house long ago, and is now putting out lateral growths as strong as many leading rods.

After they were planted a few fresh leaves formed on each shoot before ripening off. The lateral shoots were pruned in close to the main stem about midwinter, and the principal canes were left their full length. When they were tied to the wires, instead of taking them straight

up, each cane was turned off in a slanting direction at about 2 feet from the ground. In spring every bud started into growth without any trouble. The two shoots nearest the bend of the cane were trained up as rods for next year, and each shoot along the slanting part of the cane was stopped when about a foot long. Bunches of fruit appeared on many of them, and from two to five were left on each cane. These are ripe and in good condition, and are being cut now. The old wood up to where the top leading shoot branches away has swelled four times the thickness it was last year, but beyond this shoot it has not thickened an eighth part of an inch. Although the fruit has swelled as on ordinary Vines, the sap appears to have been drained into the leading shoots.

All Vines that I have to deal with in future will be treated in this way. Planting in autumn when the wood and leaves have become well hardened there is little danger of the Vines receiving a check; whereas in spring or early in summer, if they are subjected to the least cold or anything of that sort it may spoil their whole season's progress. By planting now, there are more roots to disentangle than earlier in the season. The long roots should be laid straight out, and none of the small fibres must be broken. I do not plant deeper than will just keep the top of the ball under the soil. In autumn a thorough watering to settle the roots is found sufficient, but I never allow the soil to become dust-dry about the roots throughout the winter, and with plenty of drainage underneath Vines cannot have too much water in summer.—VINE-GROWER.

## LESSONS OF THE SEASON.—No. 2.

## SPRING.

IN watching the changes of the seasons and in striving to learn the lessons which they teach, one cannot fail to be strongly impressed with the intimate relation of season with season and the important effect of one upon another. A cold spring with its sluggish sap-action, and tardy, often weakly, growth is more than counterbalanced by the additional vigour of the ensuing midsummer shoot; the value of the stunted but thoroughly matured growth of a hot dry summer is not fully appreciated till its clouds of blossom and clusters of fruit render thinning necessary in the following season. The alternating clouds and sunshine of autumn and the frost and snow of winter are all causes of certain future effects—primary sources of good or evil to come. A knowledge of these facts renders us more keenly alive to the equally important one—that almost everything we do is for a future time and not for the immediate present.

To apply this reasoning let us take the Potato: as we lift the crop the seed is selected and not thrown in heaps, but is at once laid carefully on end upon shelves in single layers with the eyes uppermost, our present object being to prevent premature sprouting; our future one to induce such a slow and vigorous development of the sprouts that planting need not be hurried on nor done at all till the soil is in a suitable condition. This spring the seed of the

early Potatoes remained on the shelves till the whole of the late kinds were planted, many of the early kinds not being planted till the last week in April, and yet the whole of them were lifted and housed in twelve weeks from that time. Late planting is, therefore, not incompatible with early lifting. We have only to store the seed well at the time of lifting and then calmly await a favourable planting-time when spring comes round again. It is most important that this should be made quite clear to those who have not yet tried the plan. I may therefore explain that when Potatoes are stored in single layers upon open shelves the sprouting, which is inevitable, is so wonderfully robust—often being as large as one's finger—that when the planting is done the haulm springs up as if by magic, and with a strength and uniformity which is most gratifying, affording a striking and agreeable contrast to the weak uncertain growth of seed that is heaped or otherwise mismanaged.

The keen cutting winds from the north and east that were so prevalent in spring taught a lesson of much importance—half learnt long ago, of the necessity and value of shelter for all kinds of fruit trees. I say half learnt advisedly, for while one is accustomed to see blossom affected by exposure to cold, yet it is something new to have the foliage of Apples and Pears battered to shreds by the wind, and that, too, after it was grown to full size and become tolerably stout in texture, as was the case this year with many of the trees standing out in single rows along the side of kitchen-garden paths. In an orchard only the outside rows on the windward side suffered, and these were not so much affected as those in the kitchen garden, which proves that such trees shelter each other when planted together in large numbers. Thick belts of Larch and Spruce Fir form admirable wind screens, and it is intended to plant such a belt along the north and east sides of an orchard to thicken and make perfect the shelter which already exists in the form of a number of Oaks and Beeches. In doing this care will be taken to bring the belt as near as possible to the orchard boundaries, and yet not so near as to shade the fruit trees. An open trench 4 feet deep will be made and maintained close along the orchard fence to prevent any encroachment of the Fir roots, and the trees will be planted 4 feet apart, having Spruce only in every third row, and only every third plant to be Spruce in that row, all the other trees to be Larch, which would bring the Spruce 12 feet apart, with the view of gradually removing the Larches, so as eventually to form a dense screen of evergreen Spruce trees.

Some Peach and Nectarine trees on the outside of a south wall had the foliage much blistered by the cold east wind which swept along them with unchecked violence. Upon the principle that the best remedy is the right one, a permanent screen in the form of a wing of brickwork 20 feet long and of the same height as the garden wall is to be attached to the south-east corner of the wall, so as in future to effectually break the force of the wind at a period of the year when its effects are so hurtful to the young and tender foliage of these valuable exotic fruits.

It is usually advised that young Raspberry shoots should be thinned in summer in order to impart as much strength as possible to those which are left to bear the next year's crop. Another and most important effect of this thinning is to expose the selected canes to the ripening influence of sun and air, without which there is considerable risk of damage from an unkindly spring, as was clearly demonstrated in two beds this season. That which was thinned passed through the cold with impunity; but the other, which remained unthinned till autumn, had the wonderfully robust but unripened canes partly destroyed. I may add that these latter canes were of such exceptional strength that thinning appeared to be altogether unnecessary.—EDWARD LUCKHURST.

### GROSSE MIGNONNE PEACH.

This is one of the finest, if not the finest, full-sized mid-season Peach. It is only just second to Noblesse, which I deem the best of all Peaches. I had Grosse Mignonne originally under four different names, three of which were Padley's Early Purple, Royal Kensington, and smooth-leaved Royal George. The fruit is large, roundish, somewhat flattened and furrowed with a deep suture at the top which divides it into two lobes. Exposed to the sun it is of a fine crimson colour, sometimes brownish red; the skin is covered with soft down. The flesh is pale yellow, red under the skin on the sun side, and red at the stone. It is a rich, vinous, highly-flavoured

Peach. The stone is rough and small, the glands are round, and the flowers are large. The tree is said to be delicate and very liable to mildew; but I have seen nothing of either here. It is difficult to fix the season of ripening, but I suppose here it ripens usually from the third week in August to first week in September. My garden is cold and exposed.—W. F. RADCLIFFE.

### THE LATE CAMPAIGN.

Now that we are in the middle of August, and grouse shooting has commenced, we may consider that the Rose season is over. There may be good second blooms in a few gardens, but as Mr. Hole so well expresses it, these will be but the gleaming of the Grapes—the echo of the chorns. We can, then, now regard the late season with care, and deliberate upon its results.

That there have been some magnificent stands staged at the great Rose shows I am the first to own; but yet I do not hesitate to say that this has not been a good season for Roses. How, indeed, could it be? Never, for the last ten years at least, have we had such trying weather—a winter unusually prolonged, a most inclement spring, drought continued all through the most important month of May, followed by unusually cold weather during the early part of June. If under such circumstances as these we were able to have Roses equal to any of past years, then we might be able to snap our fingers at the weather, and say, Do your worst, you cannot hurt us. But no one, on the contrary, is so dependant on the weather as the rosarian, and for this reason: his plants must be grown in the open air; because, if not, the blooms will all be over before the Rose show season commences, and no amount of watering will compensate for continued drought during the growing season, while no plan of rough shelter can effectually withstand the severities of our English springs.

And yet in spite of all, some marvellous blooms have been staged at our great Rose shows. Mr. Cant of Colchester, the (I think this will be granted by all) premier exhibitor of the year, was never in better form, at least since I have had the privilege of seeing his Roses, while Mr. Turner has surpassed himself, and Mr. George Paul has been uniformly good throughout the season. Mr. Keynes and Mr. Cranston have most exposed nurseries. The former has also a very poor soil, while the latter is more dependant upon rain than any of his great rivals. What wonder, then, is it that this year they have not been more successful, since they have been martyrs to the ungenial season? Among amateurs Mr. Baker has well maintained his position. He was, I know, beaten for the head prize at the Crystal Palace, but he was first in every other class, and was also first for the chief prize at the Aquarium. A deluge of rain the day before the Alexandra prevented his showing, but in spite of this he has taken more first prizes throughout the year than any other amateur.

The surprise, however, of the year has been Mr. Nicholl of Bury St. Edmunds. I knew that we had a dark horse to contend with, who was expected by so great a judge as Mr. Cant to do great things, so I was quite prepared to hear of his success, and I am sure no one congratulates him more sincerely on his victory than do the leading amateurs. There is no envy, no bitterness felt by them; they like an open fair fight, and when defeated, so far from being angry, are the first to congratulate the victor, particularly if he is a new beginner. Mr. Jowitt of Hereford has been increasing his reputation; he won Mr. Cranston's challenge cup at Hereford, and has been grand all through the year, particularly with his pets the Teas.

And now as to individual Roses. This year has been a most extraordinary one. Some of the leading sorts, which are generally grand, have been nowhere. Particularly has this been the case with Charles Lefebvre, the grandest of Roses. I have never once seen this Rose shown well. It has been exceedingly light in colour, often small, and nearly always thin. Alfred Colomb, too, has been poor this year, and all the Roses of that shade of colour have been unsatisfactory. But on the other hand it has been a grand year for Reynolds Hole, Fisher Holmes, Louis Van Houtte, and Xavier Olibo. On the whole, however, I should say that this has been the year for light-coloured Roses. "The Baroness" and La France have been grand, Marie Cointet has maintained her position, and Eugénie Verdier has advanced.

Teas this year have been unusually good, in fact it was just the year to suit them, provided that due care was taken by

their owners in providing for their wants. Souvenir d'Elise, and Souvenir d'un Ami, and Paul Neron have been splendid, Marie Van Houtte and Catherine Mermet have never been so grand, while during the latter part of the season La Boule d'Or, that most difficult of all Teas, has been superb. I have not seen Niphetos good, or Rubens; but some of the most tender varieties, such as Comtesse de Nadailac, Reine du Portugal, Mons. Furtado, and Cloth of Gold have been very fine.

This is an honest expression of my own opinion, and the result of the most careful inspection of exhibitors' stands and of the blooms in my own garden and in those of friends; but I am quite open to conviction. The more we discuss Roses among ourselves the more we learn, and the more we love them. 'Tis like comparing vintages of Lafitte and Margaux, Haubron and Latour. We like them all, but we like to discriminate between them. We delight in recalling how such a season suited one variety and how utterly another failed. We like to compare notes and linger over the memory of our loves that are gone, and wonder if another year will restore them again, or give us new beauties to worship and old ones to revere in the memory of their past glories. But be the Roses old or young, be they vigorous growers or poor sickly plants that have to struggle to live, we love them all, and the memory of their beauty will console us through the long winter months; and the more we miss them the fonder will our hearts grow of the Rose, the queen of flowers, and our national emblem.—THE WYLD SAVAGE.

### AN INTERESTING GARDEN.

WHEN visiting Brambletye some months ago I was urged to call on Dr. Rogers at East Grinstead, being assured that I should find a garden worthy of inspection and an owner of it skilled in horticultural matters—a good collector, experimentalist, and cultivator of plants. Such I found was the case, and regretted that my time was so short, precluding me from doing more than glance through the place, and compelling me to forego the pleasure of entering into the history of the plants and trees growing in the houses and grounds. Dr. Rogers has been a great traveller and has added something to his garden from distant lands; hence almost every plant has a history, and is a living remembrancer of scenes and circumstances which had occurred it may be many years ago. The garden is only a small one, but is an instance that the pleasure which a garden affords is not to be estimated by its size, many small gardens affording great pleasure, and it is to be feared some large gardens contributing only a small share of enjoyment.

Dr. Rogers' garden is not an enclosure rendered gay by the employment of large numbers of popular bedding plants; indeed it has no pretensions to gaiety, and its contents are different to most gardens, its owner having endeavoured to establish and acclimatise tender plants and trees, some of which have survived many and severe winters. The Tea shrub (*Thea bohea*), for instance, has been growing and flowering on the lawn for upwards of twenty years, and during that time has not received the slightest protection. *Opuntia kafinesquiniana* is also firmly established, and is ornamental on the rocky knoll on which it has long been growing. This plant is, however, hardy, or would be if it was planted in many other gardens, and is one of the most distinct of plants for rockwork having a southern exposure. It is one of the very few species of Cacti that can be considered as hardy in our climate. The plant is of prostrate growth, the leaves being flat, fleshy, and spineless. The flowers are yellow, and are freely produced and succeeded by red pulpy fruits having a flavour somewhat similar to that of Gooseberries. In this garden the *Eugenia Ugni* is also growing without protection. *Saxifraga sarmen-tosa*, which is usually cultivated under glass, is rambling wildly amongst the stones of the rockery. *Azalea indica alba* has been growing as a hardy shrub for many years. *Arundo conspicua* has flourished for three years without receiving any injury. The *Eucalyptus globulus* grew for four years, forming quite a tree, but then succumbed to the severity of the weather. The wood which has been preserved is exceedingly hard. A healthy plant of the Loquat, *Eriobotrya japonica*, is trained to the walls of the residence, the large glossy foliage of the plant being highly ornamental. Bamboos (*Arundinaria falcata*) and many other tender plants are also growing freely in the open air in sheltered spots in the garden.

On the lawn are several fine shrubs, trees and Conifers. *Rhododendrons*, such as *Smithii*, *arborea*, &c., have attained

a great size, are in robust health, and flower profusely; and *R. Nobleanum* usually commences flowering in January. Standard Magnolias are very fine in the blossoming period—*M. conspicua*, and a kind with rosy flowers similar to but not so good as *M. Lenné*. There is also a good specimen of *Æsculus macrostachia*, and a fine tree of the seldom-seen *Pyrus vestita*, which flowers freely. There is a handsome specimen of the elegant Conifer *Fitzroya patagonica*, and *Aucubas* are yearly laden with berries without any artificial fertilisation of the flowers. Of *Wellingtonias* there are excellent specimens which have been raised from terminal cuttings by Dr. Rogers, and many other kinds of Conifers have been similarly raised, and are fully as free and handsome as are those which have been raised from seed. Of these may be named *Cupressus funebris*, *Picea Webbiana*, *Sequoia insignis* and *Cunninghamii*, and *Deodars*. There is also a plant of *Camphora* (*Camphora officinarum*), and a specimen of *Gleditschia* from the Coliseum at Rome.

The garden is on a considerable altitude, yet is well sheltered by close belts of trees and shrubs, and hence may be attributed the immunity from injury by frosts of several plants, trees, and shrubs which commonly need protection.

Entering the glass structures we also find the arrangement and management of the plants different to what we commonly meet with. The houses are small, one jutting against the other, convenience having been studied more than aspect. They contain no stages, but the plants are placed on or are growing in bold rugged knolls of stones and roots. The effect was good, the arrangement being as picturesque as it was possible to produce in the limited space. Some of the plants were very fine—specimens worthy of being exhibited. Notably so were *Agave coccinea*, *Dasyliroton longifolium*, *Dracæna indivisa*, *latifolia*, and *angustifolia*; *Ficus macrophylla*, *Alsophila australis*, *Cycas revoluta*, *Dicksonias*, &c. These plants, which have been growing under exceedingly cool treatment, are shortly to be disposed of on account of Dr. Rogers changing his residence, he considering that a successor could not be expected to take that care of them which they require to preserve them in their healthy state. Associated with these large plants are many Ferns growing luxuriantly in a semi-natural manner—*Aspleniums*, *Adiantums*, *Davallias*, &c. Most or all of the plants named are growing in an unheated house which has been many times below the freezing point, and yet the plants are sturdy and healthy.

Besides this and other houses there is a stove in which the most tender plants are preserved through the winter; but this is not kept at a stove temperature, a night temperature of 40° being considered sufficient, Dr. Rogers' object having been to inure his plants to the coolest treatment possible, and to this low temperature the plants after many years of preparation appear to have become acclimatised. Here Rice, Coffee, Cotton, and Sugar canes are grown together with *Caladiums*, *Begonias*, and *Orchids*. Of the latter plants there are some fine specimens, notably of *Cattleyas*, which produce their gorgeous flowers in great profusion, although the plants must many times have been within a few degrees of the freezing point.

Dr. Rogers has been an importer of Orchids, and was fortunate in introducing one with which his name has become identified—*Oncidium Rogersii*. This fine Orchid was observed by Dr. Hogg when on a visit to Dr. Rogers in 1868, and was recognised as not only new but extremely beautiful; it was consequently exhibited in London and arrested considerable attention. The following extract from a previous number of the *Journal of Horticulture* is well descriptive of a plant which is worthy of notice at the present time and of general cultivation:—

"Few species of the grand genus *Oncidium* have yet been met with of a more showy and ornamental character than *Oncidium varicosum* var. *Rogersii*. The flowers, indeed, are quite equal in size and beauty to those of *O. Marshallianum* and *O. pectorale*, while in brilliancy of colour they far surpass those of *O. macranthum*. The plant was introduced into this country by Dr. Rogers of East Grinstead, after whom it has been named; and was exhibited by him for the first time when just going out of flower in November, 1868. Both *O. varicosum* and the variety under notice are natives of Brazil, the latter differing from the former chiefly in the larger size of its flowers and in the fewer crests developed on the disk. It is one of the more ornamental of its race, and all the more valuable for its habit of flowering during the late autumnal months.

"The habit of the plant resembles that of *O. bifolium*. The pseudobulbs are of a long ovate form, and somewhat compressed



and ribbed; they support a pair of ligulate-lanceolate acute leaves, while from their base proceeds an ample branched nodding panicle of large yellow flowers. The sepals and petals are quite small, pale greenish-yellow, marked with brown bars. The lip is large, much crested at the base, where it is mottled with reddish-brown; it is furnished with rounded basal lobes, and has a large reniform middle lobe, which is upwards of 2 inches across, divided into four lobules, and of the purest and brightest yellow. The panicles attain about a couple of feet in length, are much branched, and bear sometimes as many as 170 flowers. Like *O. varicosum* itself, this is one of the finest *Oncids* we have in cultivation. In gardens it bears the name of *Oncidium Rogersii*, but Professor Reichenbach is no doubt quite correct in referring it to *O. varicosum*, the four-lobed front portion of the lip affording an unmistakable characteristic.

"Being a native of Brazil, it should be cultivated in the Cattleya house. It grows freely when suspended in a basket near the roof; and sphagnum, peat, and charcoal form a suitable compost for it."

This Orchid passed into the possession of Messrs. James Veitch & Sons, The Royal Exotic Nurseries, Chelsea, where it has since frequently flowered; it is also included in many private collections, where it is justly regarded as a valuable acquisition.

Dr. Rogers' garden is exceedingly enjoyable and instructive, and the owner possesses a thorough knowledge of plants that renders the visit of "one of the craft" peculiarly gratifying. The residence, which is a modern structure built from the owner's plans, purposely resembles an erection, both internally and externally, of the sixteenth century, and is quite in keeping with the somewhat quaint and unusual character of the garden and its surroundings.—J. W.

#### FLOWERS AND FRUIT AT SWANLEY.

PROBABLY at no period of the year is the country more really beautiful than when the ripening corn bends before the reaper and a bountiful harvest is being secured by the husbandman. The trees may then have lost their vernal freshness, but they are rich in their deeper hues of matured foliage. The pastures may be in a measure browned by the summer's sun, yet every spot of earth is bearing its fruits, and the landscape is diversified by the different tints which are not found at an earlier period. The golden corn and half-cleared field are brought into clear relief by the deep contrasting foliage of contiguous woods. The hills appear higher and the valleys deeper when the shadows of a declining sun are cast over a varied-tinted surface. Summer is the time of Nature's manhood. Woods, fields, and gardens are then in their prime; grain, roots, fruits, and flowers are alike being perfected, and the "aspect of Nature" is enjoyable and satisfying.

Fruits and flowers are now to be found almost everywhere, and a delightful landscape is afforded in many districts, but in few places are fruits and flowers so noticeable as at Swanley, and few districts contiguous to the metropolis are so attractive to the traveller as the richly clothed hills and the fertile valleys around. The views on the line of the London, Chatham, and Dover Railway are most varied and attractive. The villa residences are ornate and tasteful, and the flowers, glittering through the trees tell of homes that are cared for. The miles of fruit trees—plantations of fruit—the fields of Strawberries, of Hops, Potatoes, and corn combine to render the beauty of the landscape unusually complete.

In order to better appreciate this fertile district we alight from the train at Swanley Junction, and look more closely at the "flowers and fruit" to be found contiguous. Both are worthy of inspection. For a long time has this locality been famed for the extent and superior character of its fruit culture, but it is only recently that flowers have been added to its staple products—that is, since Mr. Cannell has laid the foundations of his plant manufactory. His expanding business having burst its limited bounds at Woolwich is now transported to a wider field, where an atmosphere undefiled by smoke is secured, a soil varied, fresh, and good is provided, where shelter is found without shade, and where rain water is collected from the surface instead of being raised from below it for the support of the plants.

The site of this new nursery has been skilfully selected, for it contains natural advantages of the greatest importance in carrying on the business which is already established. It may be instructive to record the nature of these advantages as a guide to others in the choice of a site for a similar object.

In the first place a position of some altitude was sought, for in such positions the frosts of spring are less destructive than in dells and valleys; and in the next place a hollow was desired for the collection of water from the higher ground. A hollow, therefore, at the top of a hill was the only site affording these conditions, and that is precisely the site which Mr. Cannell has obtained—a large hollow on the top of a high hill. A railway station must be near, and so near is Swanley Junction that the station overlooks the ground, and a siding on the railway is the boundary of a portion of the nursery. The high embankment of the Maidstone and Sevenoaks line is the south-western boundary of the nursery, and affords invaluable shelter; the opposite side being bounded by the London turnpike, and which also is turned to account in a manner worthy of being mentioned, and which is undoubtedly beneficial to Mr. Cannell and also to the district in which he has taken up his abode.

Between these two boundaries the nursery (long and narrow, and containing an area of 17 acres) is being laid out; its lowest part is the centre—that is, it slopes, as also does the adjacent road, from the ends to the middle. Down this road the surface water from the higher has poured in torrents, doing damage to the crops in the hollow. It occurred to Mr. Cannell that if he could preserve the winter's rains for summer use the water could not fail to be of great value. He therefore obtained permission to intercept the water, and forthwith laid down drains and grates, and formed two immense catch-water tanks, and connected these tanks with others in the different houses which he has erected. These tanks are all in connection with each other and furnished with valves. This complete system of water-storing cannot be too highly estimated. It includes the drainings of manure from farms and from the railway station. The work cannot fail to have been costly, yet in the end will be found most economical, for the only force requisite to provide a supply is the costless force of gravitation, and the water is of course vastly superior to that pumped from springs. Already tanks are made holding 150,000 gallons, and further tanks will be added as other houses are erected. The tanks are built of 4-inch brickwork lined with cement, and the pipes connecting them together are also jointed with cement. The water from about two acres of road surface already drains into the tanks. It was a happy conception and has been admirably carried out. There are doubtless other places, both trade establishments and private residences, so situated that the same mode of collecting waste surface water in the rainy season might be carried out with the greatest advantage; for a sufficient supply of soft water is a store of wealth to all gardeners and cultivators of plants.

After making due provision for a full supply of soft water by conserving the surplus rainfall of the district, the next important matter was the one of shelter. This is of the greatest advantage in both nurseries and private gardens. If the frosts of spring can be in a useful measure averted and the destructive effects of the frosts of autumn be in any way postponed, also if the force of the winds at all seasons be broken, a substantial gain is attained. In many of the Belgian nurseries the value of sheltering lines of shrubs and trees are fully recognised, and hedges of Lombardy Poplars and evergreens intersect the ground at frequent intervals, forming enclosures having a higher mean temperature by several degrees than where such sheltering lines are not provided. In many English nurseries the importance of shelter is similarly appreciated, but not generally to so great an extent as on the Continent. Mr. Cannell is fully alive to the value of shelter, and is planting lines of Lombardy Poplars to be trimmed into close hedges to afford shelter, also shade, without the overhanging branches, where such aids are needed. These Poplars form the quickest, cheapest, and most compact of hedges for the internal subdivision of nurseries and gardens. In the nursery at Swanley they are employed freely, and it is a question whether even a more extended use of them would not prove advantageous.

Besides the lines of Poplars, subsidiary divisional lines are being formed of Vines. Mr. Cannell has an idea that a plant of so hardy a nature as the Vine is as often injured as benefited by its increase from eyes and its cultivation in pots. He is therefore adopting a simpler, cheaper, and harder mode of culture, and intends raising stout hardy canes for transplanting by growing them in the open ground and air of his nursery. Between these rows of Vines are plantations of flowers. For instance: six plants of a sort of nearly four hundred varieties of *Chrysanthemums* are planted out for "stock," and to keep them "true to name." Thus sheltered

by the Vines the plants will not need the support of sticks, and a saving of both labour and material is thereby effected.

Other kinds of plants are planted on the same extensive scale. Antirrhinums, Phloxes—a great collection—Pinks, Dianthus, Succulents, Campanulas, Wallflowers, and other hardy flowers; also tender plants, as Geraniums, Pentstemons, Lantanas, Lobelias—in fact, flowers of all kinds and the newest varieties of each are submitted for trial and for increase in the system of flower beds which are formed and in the course of formation.

Already some flowers in these beds attract notice by their distinctness or superiority. The Malshanger seedling Antirrhinum is an effective novelty, the flowers being not only double but are freely produced. Another variety, A. Hendersonii, rose and white, is one of the most constant and striking of all the striped sorts. A double Sweetwilliam rivals in colour and almost intensity a Cockscorn. A new Lobelia surpasses in richness of colour the rich *L. pumila magnifica* and Blue Stone. Lantanas are extremely effective, the hot season having suited them. So, also, are the Veronicas, notably *V. imperialis*, and especially the rich purple variety *Mdlle. Claudine Willermoz*. This cannot fail to be a fine summer-flowering conservatory and garden plant of the easiest culture. *Sedum spectabile* is bedded out, and with it the newer and taller variety *S. japonicum*. When these plants are cultivated instead of being starved, as we so often find them, their gigantic rosy-pink heads are exceedingly attractive. Pansies are grown in large numbers, but the great heat and drought has limited their beauty. *Viola Queen Victoria* is one which has endured the best. It is a rich and fine variety, and equally valuable is the *Tory*. A new strain of Pentstemons is being established, the plants being altogether more dwarf and sturdy in habit than those of the ordinary type, the flowers of the dwarfs are also equally superior. The new strain is likely to prove a valuable addition to an attractive family of plants.

Geraniums are extensively planted, but the extreme heat has caused many of them to produce trusses of seed. Two Geraniums thus planted are particularly worthy of notice—namely, the new double Ivy-leaved variety *Konig Albert*, and the new bedding zonal *Jealousy*. *Konig Albert* as bedded out is compact in growth with foliage of the brightest green, and the flower trusses are supported clearly above it. These are produced in great profusion, and the fine double flowers are striking by their massiveness and are attractive by their soft lively colour. A great advantage of this variety is that the decaying flowers shrivel and drop off instead of adhering to the trusses, as do the flowers of many double varieties, looking dismal and unsightly. That the first double Ivy-leaved Geranium should be so free and so useful is almost more than could have been expected. It combines all the good qualities which render a plant popular, and cannot fail to be largely grown.

*Jealousy* must also become a general favourite in the flower garden, and it is also fine for cultivation in pots, but it is as a bedder that it is the most valuable. Whether the novel name was given in consequence of yellow being emblematical of jealousy, or whether the possession of this variety would provoke feelings of jealousy in the minds of others not possessing it, Mr. Cannell does not enlighten us; but certain it is that it is one of the best and most distinct bedders of the day—a variety to be coveted, and certain also is it that it contains more yellow in its petals than does any other Geranium. A small individual plant does not adequately show its merits, but to see plants blooming in large numbers the play of yellow over the mass is very decided and pleasing. It is dwarf yet of free growth, and the pips are of good shape. It flowers apparently as profusely as does *Vesuvius*, and like that well-known variety is likely to become a staple Geranium for flower-garden purposes.

A little must be said of the glass structures and their contents. A considerable extent of glass is projected, and some span-roofed houses—a total length of about 500 feet—are already erected. These are compactly and conveniently arranged; they are light, durable, and well ventilated, and are admirably adapted for the increase and cultivation of plants. The lower portions of the lights and rafters—indeed, every part of the woodwork near the gutters and floor—has been twice dipped in tar. The gutters between the houses are made with cement, and conduct the water to the tanks above mentioned. The houses are glazed with stout English glass, bedded in putty and fastened with springs, no putty being used above the glass. "Circulators" are in the course of being

fixed to supply the heat, the water being conveyed by a 3-inch pipe along the floor of the house, returning by three pipes each an inch in diameter, and affixed to the roof above the plants—that is, three pipes are employed along each roof, or six pipes to each house. Were not this great innovation in heating by hot-water something more than a novel idea Mr. Cannell could not have afforded to have adopted it on such an extensive scale as is here projected and being carried out. After much experience and careful testing and comparison he has adopted it as the most economical and best suited to his purpose. A number of low pits or frames are heated in the same way—that is, the heat is conveyed from above the same as is heat from the sun, and also on the principle that as cold in winter "comes in" by the lights—really heat escaping, it is at the lights that the heat is provided, being the place where it is most needed, and where it is the most effectual in preserving the plants from frost and damp. This topsy-turvy system of heating is in opposition to the orthodox notions of hot-water engineers, but it answered its purpose for several years at Woolwich, and there is no suspicion of any lack of confidence in the mind of its introducer that it will not answer equally well on an extended scale at Swanley.

Only very briefly can the contents of the houses be alluded to. One house is filled with Geraniums—the newest and best varieties extant—the cream of English and continental raisers. The great variety of colour and the enormous trusses produce a remarkable display. Some of the newer double varieties are a great advance on the older kinds, the plants possessing the same short-jointed growth and freedom of flowering which is common to the single varieties. Almost every shade of colour is found in these varieties, from the pure white of *Mdlle. Amelie Baltet* to the rich magenta of *M. Buchner*. A few selected from this fine collection—the cream of the cream—may be relied on as highly superior. Little more can be done than to give their names, the particulars of them being truthfully detailed in Mr. Cannell's "Floral Guide." Twelve splendid doubles are the following:—*Mdlle. Amelie Baltet* (pure), and *Lucy Lemoine* (blush), whites; *Jewel* and *Meteor Flag*, scarlets; *Madame Dauphin* and *Madame Boutard*, rose-coloured; *Madame Thibaut* and *Engène Bandowin*, pink, suffused with purple; *J. C. Rodbard* and *Henri Beurrier*, salmon-tinted; and *C. H. Wagner* and *M. Buchner*, crimson, suffused violet. That is a very select list, to be converted into a baker's dozen by the addition of Mr. G. Smith's semi-double variety *Wonderful*, a variety which should be possessed by everybody. It is a sport from *Vesuvius*, and has all the good qualities of the parent, but is more brilliant and semi-double. It will prove splendid both for pots and beds; and it is probable that others of the new race of doubles will also prove good bedders. The old varieties of doubles afford no idea of the merits of the "later introductions." A few of the most striking of the single Zonals were *Lemoine's Drapau*, *Tricolor* and *Deputé Valentine*; *Dr. Denny's Astarte* and *Salathiel*; *Mr. Pearson's E. G. Henderson*, *Lord Zetland*, *Havelock*, *Louisa*, *Mrs. Lancaster*, *Mrs. Gregory*, *Ethel*, *T. F. Fenn*, *Lady Byron*, *Lucy Bosworth*, *John Gibbons*, and *Sir H. Stanhope*. *Apple Blossom* (Cannell), *Mrs. George Gordon* (De Vere), *Remus* (Postans), *Sir P. Dyke* (Borrowdale), *Marguerite Ponton* (Bertrand), *Seraph* and *Ivanhoe* (George), *Mrs. G. Smith* and *Dreadnought* (Smith), and *Vanessa* (Miles). *White Clipper* remains the best of its section. Those are a few of the very best of this fine collection.

Another house is occupied with *Fuchsias*—healthy, handsome plants of the choicest varieties. *Fuchsias* are indispensable for the summer decoration of conservatories. Mr. Cannell's plan is to grow the plants quickly, permitting them to receive no checks, affording them abundant ventilation and very slight shade. Where all are so good it is difficult to eliminate "the best;" a few, however, may be found which are especially noticeable. One of the most striking is *Aurora Superba* as being the first step towards a yellow variety. The plant is vigorous and the flowers are fine; the tube and sepals being salmon and the corolla orange scarlet. *Ethel* (Bull) is remarkable by the great length of its pure white tube; and *Fireworks* is distinct by its profusion of pendulous brilliant buds. *Champion of the World* is still the largest double dark variety, and a white companion is found for it in *Miss Lucy Finnis* (Simmonds), which is profusely weighted with its enormous flowers. The best double white, however, taking all its qualities into consideration, is *Mrs. H. Cannell*. *Little Alice* is also most lovely; and *Sir G. Wolesey*, *General Chanzy*, and *Avalanche* are the best double darks. Of single varieties with light tubes and dark corollas *White*

Souvenir de Chiswick and Covent Garden White are two of the freest and finest for decorative purposes. Guiding Star, Rose of Denmark, and Lucy Mills are also as effective as ever. The best singles having white corollas are Mrs. E. Bennett and Delight. Of dark singles Lord Falmouth is a grand new variety, and highly superior are T. T. Lowden, Model, Crown Prince of Prussia, Enoch Arden, Gazelle, Father Ignatius, Try-me-Oh, Swanley Gem, Dr. Kitto, Giddings, Roderic Dhu, Noblesse, First of the Day, and Day Dream. A distinct self-coloured variety is Sedan. Erecta von Novelty is an erect and most profuse-flowering variety, attractive for pots and likely to be particularly effective when planted out.

Another house is nearly filled with Petunias, principally single-flowered varieties, which have been raised from seed. This collection is remarkable for the extremely varied colours of the flowers, their high quality, rich markings, and delightful perfume. Many plants possess the bold rigid habits of the doubles. Some of the single flowers are from 2 to 3 inches in diameter, and have large reticulated trumpet-shaped tubes; others are small, perfectly shaped, and chastely marked. Their colours range from white to magenta. Some of the varieties are to be named. It is the finest strain of single Petunias that has probably ever been produced.

It is interesting and also instructive to note the successful way by which Mr. Cannell raises his supply of Primulas, Cinerarias, and Calceolarias. This is an important branch of his business, and hundreds of thousands of these seedlings are now growing in seed boxes in low frames. The seed is sown on thoroughly moistened soil and the boxes are then placed in frames, which are thickly covered with mats and kept dark. That is all that is done or required, no soil or sand being sprinkled over the seed, and 95 per cent. of good seed will germinate. It is exceedingly simple, but only a moment's reflection is needed to convince one that it is the right plan to adopt. By this mode the soil needs no watering until after the seedlings appear. The mats are gradually removed when the plants appear, and during fine nights the "crop" is exposed to the refreshing influence of night air and dews, and the plants grow freely and vigorously.

After writing so fully of the flowers only a little can be said of the fruit at Swanley. The season's crop is now gathered, but an idea may be given of the extent of its cultivation. On the "farm" adjoining the nursery a ton of Raspberries have this year been gathered before breakfast, and 11 tons of Strawberries have been sent to market by the same proprietor, Mr. Vincent. The total weight of Strawberries which have this year been gathered in the district is 80 tons. They were sent to London in vans, and to Manchester and the north in railway trucks. Five pence per peck is paid for picking them, the fruit-pickers coming principally from London, and "gipseying" in the locality. After "fruiting" is over they commence "hopping," and after the Hops are gathered they commence "tating"—taking-up and storing Potatoes. The manner in which the fruit and Potatoes are grown may be alluded to in another communication.

The district is evidently particularly suitable to the cultivation of "flowers and fruit," and is also exceedingly salubrious and conducive to the health of its inhabitants, for not only does Swanley contain superior examples of vegetation, but also, no doubt, the most wonderful specimen of humanity to be found in Her Majesty's dominions, or probably in the world. As the Brobdingnagian Boy of Swanley has not yet been honoured with public notice, perhaps he may be alluded to here. His name is Richard Beenham, he will be twelve years of age on the 31st of the present month, his height is 5 feet, his girth round the waist is 69 inches, and his weight upwards of 24 stones of 14 lbs. to the stone. He is healthy and in possession of his faculties. His father is a basket-maker, and the "boy" appears to be learning the business.—J.

#### DRILLING CABBAGE SEED.

THE common culture of this plant, as everyone knows, is that of sowing the seed on a seed bed, and transplanting the plants where they are to remain to produce Cabbages. The drilling system precludes the necessity of transplanting, which in a season like the present can only be performed during or immediately after rain, and in case of a drought must be postponed often for a long period. I have often remarked how

superior plants have been that were singled-out in seed beds and left without moving when compared with others which had been transplanted. Last July I drilled some Walcheren Broccoli with great success. I sow the seed thinly in quarters where the plants are to remain. Thinning must be attended to early and in a gradual manner, so that in case of any of the plants being destroyed there may be no blanks in the rows. I should be glad if some of the readers of your Journal would give us their opinion on the drilling system in gardens. —WILLIAM GILES.

#### IMPROVED WATER BARROW.

THIS water barrow for garden purposes, to which is attached a patent rotary pump, is manufactured by Messrs. Barnard and Co., Norwich. It is very simple in construction, and

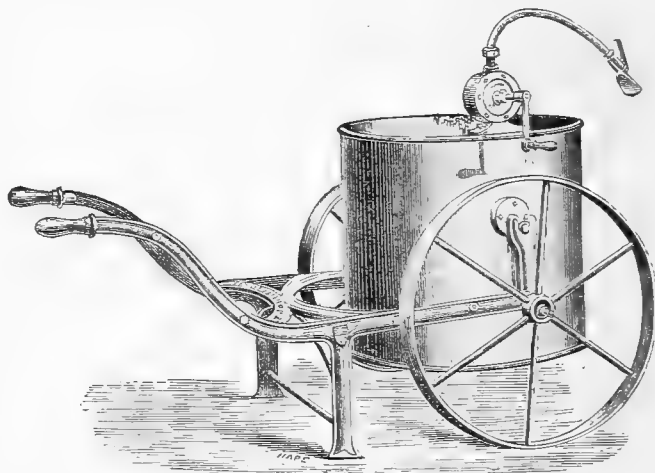


Fig. 16.

efficient in action. The pump can be worked by a boy, and is capable of throwing a continuous stream of water to a distance of 40 feet or 50 feet. If treated with care (as any piece of good machinery should be) it will last for many years. These pumps should be well oiled after use, and when the jet pipe is removed a cork should be placed in the aperture of the pump.

#### THE TIMBER SUPPLY OF THE UNITED STATES.

A PAMPHLET we have received on the "Timber Supply of the Dominion of Canada and the United States of America," by Mr. James Little, reveals a state of consumption and waste of timber that must make our political economists and those interested in this great source of wealth reflect a little on the consequences. Twenty-five millions of dollars are received yearly from the forests. Mr. Little shows in his pamphlet that great waste is going on, that the Governments of Ontario and Quebec through their Crown Timber Office (generally under the control of lawyers quite ignorant of the duties), have been hastening the stripping of the country of its invaluable timber resources, which never can be reproduced, so far as the white Pine is concerned, by throwing them on the market without reference to the requirements of the trade—their object being to see which of them can raise the largest revenue and make the best exhibit in their budget speeches, regardless of the resources of the country. Mr. Little shows, by figures carefully obtained, that the effect of this waste will be, at the rate of consumption going on, that there will not be a tree left, a dozen years hence, on this side of the Rocky Mountains, of the commercial woods which yield such large returns and supply home purposes. The census of 1870 showed a production of sawed timber of 12,755,543,000 feet, and the addition of timber made into shingles and hewn, flattened and rounded timber used at home and exported (excluding firewood), reaches the enormous amount of 20,000,000,000 feet, or 30,000,000 of tons, from which Mr. Little estimates it would require more than 50 per cent. more than the shipping of the whole world to freight that quantity from their Pacific states and terri-

tories to the Atlantic seaboard, besides distribution or cost of carriage to points of consumption. The State of Maine—known as the Pine-tree State of the Union—has its forests all but stripped of that wood, and the work of cutting up the Spruce out of logs 6 to 8 inches in diameter, to glut its own and the English market, is being carried on by the mills. Statisticians calculate that the constant drain will exhaust the State within five years. It appears that other eastern States, New Hampshire, Massachusetts, Connecticut, Rhode Island, and the States of New York, Delaware, Maryland, Ohio, &c., at one time dense forests of the finest Pine timber, are denuded of that product, and have little timber left. All kinds of rubbish are being sawed up, patches of firewood are being thinned, and these States are large purchasers of Michigan and Canada Pine and Spruce timber to supplement their own valueless home product. Even firewood has almost disappeared. It is stated that Pennsylvania, one of the best Pine-producing States of the Union as regards the quality and extent of its timber, is within a few years of its exhaustion.

A recent writer on the subject says consumers are awakening to a knowledge of the important fact that the Pine resources of Pennsylvania are not inexhaustible. The dense forests bordering the Susquehanna, the mountains of the Monongahela Valley, and the majestic trees which covered thickly a few years ago the whole area, and appeared sufficient to supply the demands of a future however distant, now show signs of speedy exhaustion. Some of these States are only just beginning to be awakened to the truth, and are earnestly considering means to stop the reckless management and waste which has been going on for years. Pine-lumbering is one of the finest industries of Pennsylvania, and every suggestion to check the impending loss must be considered. Even the coal regions cannot supply enough timber to furnish the necessary props, though once famed for their Pine. It is declared by the same writer that four years "will exhaust the supply of the Susquehanna Valley, and the now comparatively neglected Hemlock will become the staple of the timber trade of that section, as it has been for years in the Delaware region."

To give an instance of the exhausting process going on, it may be stated the State of Pennsylvania manufactured and consumed, according to the last census, 1,610,000,000 of feet, about 500,000,000 of which were Pine, the remainder being Hemlock, and this vast amount is three times as much as is shipped from Quebec of both deals and timber, if the latter were sawn into boards. Virginia, Carolina, Mississippi, Tennessee, Kentucky, &c., have Pitch Pine and Cypress, which cannot take the place of White Pine. This is being destroyed by turpentine farmers at the rate of 10 per cent. per annum. The wood is found to decay rapidly in buildings when in contact with mortar; hence the low estimate of this timber in the English market.

We need not give more instances of the wholesale slaughtering of these once magnificent Pine forests, and we may inquire in passing, What the effects are likely to be of this devastating and sweeping operation? Commercially, the States must suffer—a great source of wealth is being sacrificed with recklessness; and, physically, we can scarcely estimate the consequence of this vast destruction of forests in altering the balance of natural laws. The author shows, by statistical returns of industries in which wood plays a great part—as carriages, furniture, bridges, ships, railway sleepers, fences, telegraph poles, &c.—what must be looked for when the supplies of these great industries are cut off. All the commercial convulsions and monetary crises that have ever happened will be nothing compared to the calamity occasioned by a dearth of timber. Yet, in ignorance of this, the lumbermen keep slashing away, and appear to be hastening on the crisis, as if their business was to extirpate this source of industry. The same complaint is made of the Valley of the Ottawa, Nova Scotia, and other States. Lumbermen are now recklessly throwing away what in five years' time would be worth £5000 an acre. It is stated that in five years neither Pine timber, nor deals, nor Spruce will be shipped from Quebec, and timber will be higher on that side of the Atlantic than this.

The writer in conclusion suggests a remedy which Ontario at once, and Quebec in two years' time, can do; and that is, to stop the getting-out of square timber in the woods, which occasions the loss of one quarter of the most valuable part of the tree, and the greater destruction of cutting down trees to make into timber, but which, from some imperfection, is found unsuited, and is allowed to rot in the woods, although much would be valuable for saw logs. Fire is also a source of

great destruction in forests, which follows the getting-out of square timber, as the least spark in dry weather ignites the hewings, and sets the forest ablaze. The only remedy for all this waste is to stop the making of square timber for exportation.—(*English Mechanic*.)

[This suggests that not only in America, but in Europe, planting of timber trees should be encouraged. Admiral Collingwood used to have a supply of acorns in his pocket, made a hole with his stick, and dropped one in wherever he thought the young Oak would prosper.]

## NATIONAL CARNATION AND PICOTEE SOCIETY.

THE Exhibition for this year was held in the Botanical Gardens, Stretford, Manchester, on the 11th and 12th inst., and florists from the midland counties, from the north, and from the south met together in great numbers, most of them bringing flowers with them; some, like Messrs. Simonite, Bowers, Rudd, Booth, and others staging nearly a hundred flowers each. We cannot say that the arrangements were perfect. In the first place, the members were called together by the Secretary when the flowers were staged, and the Judges were selected from amongst them by vote; and certainly some of them were not adequate to the position allotted to them. In the next place, the conservatory ought to have been cleared of all the exhibitors before the judging commenced, and no one ought to have been admitted until the awards had been declared. It is bad enough for Judges to face disappointed exhibitors after their labours are finished, but to be surrounded with them while their work is going on ought not to be allowed. Perhaps it was owing to this that several mistakes were made. And here it may be as well to remark on the critical acumen of the Judges. In the principal class for Carnations in twelve distinct sorts, a pan sent by Mr. G. Rudd of very fine flowers (indeed the premier flower in the Exhibition was found in his stand) was disqualified from having a splendid flower of Sarah Payne (Ward), one or other of the petals of which was wanting in bizarre, but on carefully looking over the petals not one could be found that had not any spot or bar of the purple. The same exhibitor was also disqualified in the principal Picotee class by having two light red-edged flowers in it so nearly alike that the Judges could not distinguish them. One was Thomas Williams and the other Rev. F. D. Horner. These two decisions were ultimately altered by the managers of the Show, but not until 6 p.m. of the day of exhibition, and fourth prizes were awarded in each class.

The Show was a very good one. Most of the flowers, though not very large, were remarkably clean and fresh, but they did not stand very well, as the two days were very hot and the glass roof of the building was not sufficiently shaded. This was a misfortune in another sense, as the beautiful markings are best brought out in a subdued light.

The following are the awards of the Judges:—Twelve Carnations (distinct), Mr. Jonathan Booth, Pole Lane, Failsforth, Manchester, was first with Garibaldi, Jas. Merryweather, Ivanhoe, Admiral Curzon, Earl of Wilton, Sir J. Paxton, John Keet, Annihilator, Lovely Ann, Juno, Sportsman, and Lord Milton. Second, Thomas Bowers, Esq., Dirkhill, Bradford, with Admiral Curzon, a grand flower; Sportsman, Squire Meynell, John Rich, Clipper, a new scarlet flake of fine quality; Eccentric Jack, E. S. Dodwell, Sir J. Paxton, Mars, Lord Raglan, John Bailey, and Mayor of Nottingham. Third, Mr. Benjamin Simonite, Rough Bank, Sheffield, with Frank Simonite, Mr. Findlay, F. D. Horner, John Simonite, Jas. Douglas, Samuel Barlow, Sportsman, Earl Stamford, Admiral Curzon, and Hector. Richard Gorton, Esq., Gilderbrook, Eccles near Manchester, was fourth with a stand of very bright flowers; amongst them Mercury, Jas. Cheatham, very fine; Warrior, and Rose of Stapleford. An equal fourth was given to Geo. Rudd, Esq., Undercliffe, Bradford, for his disqualified stand; and Mr. Joseph Chadwick, Ashton-under-Lyne, was fifth.

In the class for twelve Picotees, distinct, there was also very close competition, and it contained some very fine flowers. Mr. Booth, whose flowers were just in at the right time, was again first with Mrs. Summers, Mrs. May, Morning Star, William Summers, J. B. Bryant, Mary, very fine; Countess of Wilton, Miss Wood, Cynthia, Scarlet Queen, Ann Lord, and Edith Dombrain; this last sort has been very fine in the north this year. Mr. Simonite was second with J. B. Bryant, Mrs. Douglas, Jenny Ibbison, Mrs. Gorton, Mrs. Summers, Mrs. F. D. Horner (in memoriam), Silvia, and unnamed seedlings; except J. B. Bryant this stand was composed entirely of Mr. Simonite's own seedlings. Robert Lord, Esq., Todmorden, was third. In his stand were good flowers of Miss Horner, Ann Lord, Minnie, Alice, and Miss Small. Messrs. Bower & Rudd were placed equal fourth.

The next class for twelve Carnations in nine distinct sorts Mr. Booth was again first. In this stand were Uncle Tom, Lord Napier, True Briton, &c. Second came Mr. Simonite with J. D. Hextall, Desdemona, Othello, and seedlings. Third, G.



Rudd, Esq.; in this stand Sarah Payne, Clipper, and Falcon-bridge were fine. Mr. John Beswick, Middleton, was fourth, and Richard Gorton, Esq., fifth. In this stand were fine blooms of Graceless Tom and James Cheetham, and the best Sarah Payne in the Exhibition.

In the corresponding class for Picotees Mr. Booth won the first place with very fine flowers, Miss Lee, Mrs. Dodwell, Nymph, and Mrs. Lord being especially superior. Mr. Simonite was second with Mrs. Niven, J. B. Bryant, Mrs. Summers, and seedlings. Third, Mr. Beswick. This stand contained amongst others Bonny Jane, Beauty of Plumstead, Ann Lord, and Mr. Harland. R. Gorton, Esq., was fourth with John Smith, a fine flower; Nymph, and Mrs. Booth. G. Rudd, Esq., was fifth.

For six distinct Carnations Robert Lord, Esq., was first with John Keet, Juno, Sportsman, Lord Raglan, Admiral Curzon, and Clipper. Mr. Booth second; Mr. Rudd, Mr. Simonite, and Mr. Chadwick taking the remaining prizes in the order named.

For six distinct Picotees Mr. Simonite was first with Mrs. Summers, Mrs. Simonite, Teresa, J. B. Bryant, and a seedling. Mr. Booth; R. Gorton, Esq.; S. Cooper, Esq., Timperley, Cheshire, and Mr. Chadwick being the remaining prizewinners.

The prizes for the best single blooms brought out a large competition, some of the growers showing at least a dozen blooms in each of the classes.

#### CARNATIONS.

*Scarlet Bizarres*.—1, R. Lord with Admiral Curzon. 2 and 3, J. Booth with Admiral Curzon and Admiral Napier. 4, — Simonite with a seedling. 5, T. Bowers with Sir Joseph Paxton.

*Crimson Bizarres*.—1, 3, 4, and 6, — Simonite with John Simonite, Eccentric Jack, and Samuel Barlow. 2, S. Cooper with Rifleman. 5, J. Booth with Lord Raglan.

*Rose Flakes*.—1 and 2, R. Lord with Sportsman. 3, — Simonite with Rev. F. D. Horner. 4, — Beswick with Clipper. 5, J. Booth with Wm. Harland. 6, T. Bowers with Clipper.

*Rose Flakes*.—1 and 2, R. Lord with John Keet and a seedling. 3, T. Bowers with E. T. Dodwell. 4 and 6, J. Booth with James Merryweather and Lovely Ann. 5, — Whitaker with Crista-galli.

*Purple Flakes*.—1 and 4, R. Lord with Juno. 2, T. Bowers with Squire Meynell. 3, — Simonite with James Douglas. 5, J. Booth with Lady Peel. 6, — Beswick with Earl of Wilton.

#### PICOTEEES.

*Heavy-edged Red*.—1 and 2, T. Bowers with J. B. Bryant and Mrs. Dodwell. 3, — Beswick with a seedling. 4, R. Lord with John Smith. 5, S. Cooper with Miss Small. 6, J. Booth with Brunette.

*Light Red-edges*.—1, 2, 3, 4, 6, — Simonite with Mrs. Gorton and four seedlings. 5, T. Bowers with William Summers.

*Heavy Purple-edged*.—1 and 2, R. Gorton with Mrs. Summers and Norfolk Beauty. 3 and 4, — Simonite with seedlings. 5, — Beswick with Mrs. Summers. 6, J. Booth with Alliance.

*Light Purple-edged*.—1, — Beswick with Mary. 2, R. Gorton with Mary. 3, S. Cooper with Ann Lord. 4 and 6, R. Lord with Alice and a seedling. 5, — Simonite with a seedling.

*Heavy Rose-edge*.—1 and 4, R. Lord with Miss Horner. 2 and 3, J. Booth with Mrs. Lord. 5, — Mellor with Edith Dombrain. 6, — Beswick with Bonny Jane.

*Light Rose-edge*.—1, R. Lord with Miss Wood. 2, J. Booth with Miss Wood. 3 and 6, T. Bowers with Ethel. 4, — Beswick with Miss Nicholls. 5, — Mellor with Bertha.

Flowers to which first-class certificates were awarded:—

**CARNATIONS.**—*Scarlet Bizarre*: Ohello, a very distinct flower with rich markings. It is the darkest flower that has yet been seen, with a broad stout petal and a smooth outline. *Crimson Bizarres*: Samuel Barlow, a very beautiful flower of the largest size, and in the formation resembles Isaac Wilkinson, with colours brighter and more defined and better petals. Frank Simonite.—This is quite distinct, and a grand flower of large size and immense breadth and smoothness of petal, markings very regular. John Simonite, a seedling from Jenny Lind (Puxley), very large and a most striking flower; white, very pure. *Purple-flake*: James Douglas is, perhaps, a seedling from Mayor of Nottingham, but it is much superior to that sort; the white is very pure, the flakes regular and well defined; petals broad, stout in substance, and quite smooth. *Scarlet-flake*: Rev. F. D. Horner.—This sort stands very high in its class; it is certainly the most constant, and has the smoothest petal, the markings very regular. Colour bright scarlet.

**PICOTEEES.**—The following varieties like the above have been raised by Mr. Benjamin Simonite, Rough Bank, Sheffield, and amongst them will be found some of the finest and best-marked flowers in existence, and when they are grown under better circumstances they may be expected to be seen in still better form. *Light Red-edges*: Mrs. Simonite. This gained the premium prize as the best Picotee in the Exhibition. It is certainly grand, petals smooth, shell-like, pearly white, with fine wire edge. Mrs. F. D. Horner is best described as a red-edged Mary, and will hold a high position in years to come. Mrs. Gorton, fine smooth petal without spot or bar, and wire edge. Mrs. Douglas, one of the most distinct flowers exhibited. It is a lovely flower with smooth petals and well-defined medium mauve-purple edge. Silvia, a chaste and elegant flower with the finest purple wire edge yet seen. Similar awards were also given to Rose-flake Carnation E. S. Dodwell (Bower). It has brilliant cherry-rose flakes, and very neat. Mrs. Dodwell (Lord), another Rose-flake of good substance, and bright deep rose flakes regularly disposed, smooth petal. Miss Horner (Lord), a

very fine, heavy, rose-edge, lighter in colour than Edith Dombrain, and a better flower.

Perhaps an equal number of first-class certificates has never been awarded in one day for these florists' flowers.

As a supplement to the Carnation Show, collections of fruit and flowers were sent by various exhibitors. The Society's silver medal was given to Mr. J. T. Rayner, gardener to E. Molyneux, Esq., Rock Park, Birkenhead, for two splendid bunches of well-finished Black Hamburg Grapes; their united weight was 11 lbs. 10 ozs.

First-class cultural commendations were also given to Mr. W. Leech, Fallowfield, near Manchester, for a good *Saccolabium Blumei majus*; to S. Cooper, Esq., for *Adiantum farleyense*; to Mr. John Rylands for black and white Grapes; and a first-class certificate was awarded to Mr. Hill, gardener, Keele Hall, for a new white-fleshed Melon.

The following had first-class commendations:—Mr. Upjohn, gardener to the Earl of Ellesmere for a collection of fruit in twelve distinct sorts; it comprised Black Hamburg and Duke of Buccleuch Grapes, the latter with immense berries, Pines, Peaches, and Nectarines, and a Melon; the collection was well set up. Messrs. G. & W. Yates for bouquets; and Mr. Leech for *Oncidium macranthum*.

#### TAUNTON DEANE HORTICULTURAL SOCIETY.

AUGUST 10TH.

THE Royal Agricultural Society of England held their Show at Taunton last year, and hence the great annual gathering in connection with the Horticultural Society was omitted, so that it was two years since I had the pleasure of visiting this most charming Somersetshire town. During that time of course changes had taken place; a new Secretary had been appointed, but in many respects there had been no change. There was the same gala-day appearance about the town; bunting was largely displayed; the streets were crowded, not only with the carriages of the neighbouring gentry but by holiday-keepers of all sorts; while in the Vivary Park, where the Exhibition was held, there was to be seen the same array of tents filled with the productions of most of the old and many new exhibitors. The same genial reception was given to all who were partakers in the arrangements. Judges and officers of the Society, and leading exhibitors met together to talk over horticulture and to give and receive hints on the subjects of deepest interest to them.

The extremely dry and scorching weather that we have lately experienced had its effect upon the cut flowers, and together with the utter carelessness of the railway people tended somewhat to mar the Show. The plants of the Messrs. Drummond never left Bath, as the Great Western Railway had no trucks to take them; while of the eight boxes of cut Roses brought by Mr. Prince, and which were deposited safely at nine o'clock the night before at the Taunton station, only two could be put up, the others having been turned completely over, and shavings, moss, tubes, and Roses all mixed together. It must have been the result of thorough carelessness. Then, unfortunately, there is no redress; and indeed when one sees what has happened on these southern lines lately I suppose Mr. Prince would be told that it was fortunate it was only his boxes and not himself that came to grief. But notwithstanding these drawbacks the Show was a most excellent one, the two collections of stove and greenhouse plants exhibited by Mr. Cypher of Cheltenham, and Messrs. Lucombe, Pince, & Co. of Exeter, being probably as fine collections as ever were exhibited in the month of August. The Heaths in the former collection were superb specimens of culture. Ferns also were contributed by the same exhibitors and by Messrs. Bryant & Co. of Bath in fine order, including good specimens of *Adiantum farleyense*. There were also some fine Palms and excellent specimens of Lycopods. Mr. Williams of Holloway sent a large number of new and rare plants not for competition; and the large number of zonal Pelargoniums contributed to the gaiety of this tent, which formed the principal point of attraction. But surely I may suggest to the promoters of the Show that it is time to discard the classes for tricolor and bronze Pelargoniums. August is much too late for them, and the fancy for them has so completely altered that no one would regret to see other classes substituted for them. It is impossible at this season to distinguish varieties, and if an exhibitor chose to put up three or four of a sort it would be very difficult to distinguish them.

The amateurs' classes were not quite so well filled as I have seen them, but here again the weather has been unpropitious. Amateurs have not the same appliances nor the large collections that nurserymen have, and hence when such tropical weather as this comes and a plant or two is driven out of bloom they are nonplussed; yet in some of the classes, notably in the zonal Pelargoniums, their plants were better than the nurserymen's, being more compact in growth and more full of bloom; and in Ferns and Lycopods and Fuchsias there were some remarkably fine exhibits.

Amongst cut flowers the most telling stand was that of Gla-

diolus sent in by Messrs. Kelway & Son, the well-known raisers of Langport. With one exception, that of Shakespeare, their flowers were all of their own raising, and were of their usual excellence. It is, however, useless to give the names, as probably many of them may not be in commerce for years to come; and purchasers would do better to let Mr. Kelway choose those he may send rather than trouble themselves with names, of which they will have probably to be told "They are not on our list yet." And no description can give any adequate idea of the colouring of the flowers. Two of them, Mr. Marshall and Dr. Woodruffe, were awarded first-class certificates, the former named after the enthusiastic owner of Belmont close to Taunton, and the latter the indefatigable Secretary of the Society.

I was sorry to see so few competitors for the ladies' prizes, but those which were exhibited were very good. Miss Cypher of Cheltenham arranged a table with her usual excellent taste, and the dinner-table stands were all in good style. In the cottagers' productions the fruit and vegetables felt somewhat short owing to the dry weather; but one was astonished to see such Carrots, Onions, and Celery exhibited in such a season.

A brilliant day (so different from the gale of two years ago) added of course greatly to the success of the Exhibition. The Secretaries and Committee worked hard to make all go straight, and I should imagine that in a pecuniary sense their efforts must have been successful, and that the Taunton Deane Horticultural Society has in this summer of brilliant sunshine scored a success.—D., *Dealt*.

## ROYAL HORTICULTURAL SOCIETY.

AUGUST 16TH.

FRUIT COMMITTEE.—H. Webb, Esq., in the chair. Several Melons were submitted to the notice of the Committee, but although many of them were imposing in appearance they were deficient in flavour. Mr. James Hussey, gardener to D. Pearce, Esq., Northend Villa, Hammersmith, was awarded a cultural commendation for four brace of Telegraph Cucumber. Mr. E. Luckhurst, gardener to A. Nesbitt, Esq., Oldlands Hall, Uckfield, sent two bunches of Ferdinand de Lesseps Grape, which were deliciously flavoured and perfumed; also Victoria Red Currants, which were very fine and similar to the unnamed dish that was exhibited from Chiswick at the last meeting; also very fine and well flavoured Early Rivers Peaches, to which a letter of thanks was awarded. An excellent dish of Victoria Nectarines was exhibited by Mr. Tillery, Welbeck, and received a cultural commendation. Mr. Flint, gardener to E. Lee, Esq., Loam Pit Hill House, Lewisham, had a similar award for good dishes of Royal George Peaches and Elruge Nectarines. Mr. Flint also exhibited good examples of the Golden Perfection Melon.

Mr. Turner, Slough, exhibited The Schoolmaster Potato, a round, rough-skinned, handsome tuber, which has been proved by the Committee to be of superior quality. The haulm resembles that of Bresee's Prolific, but is more compact in growth. A similar award was made to Messrs. James Veitch & Sons for a seedling, a handsome tuber, the plant being of erect growth. Mr. Parsons, Danesbury House, Welwyn, exhibited Magnum Bonum Onions, a selection from the Globe, and well grown. A collection of Apples, including Duchess of Oldenburgh, Charmagne, American Crab, &c., was sent from the Society's garden at Chiswick. They were ripe and briskly flavoured, the American Crab being also attractive in appearance.

FLORAL COMMITTEE.—Mr. W. Bull in the chair. Messrs. Veitch & Sons exhibited a plant of *Dendrobium bigibbum* superbum, a rare and distinct Australian species, with purplish lilac sepals and petals, and a deeper lip; a valuable *Dendrobium* which is seldom seen, and which should be included in all collections. A first-class certificate was awarded. Mr. D. Ross, The Gardens, St. Martin's Abbey, Perth, was awarded a first-class certificate for *Lobelia St. Martin's Blue*, a compact-growing variety, having flowers of the deepest indigo blue and bronzy-brown foliage. It is highly distinct, and cannot fail to be valuable for bedding purposes.

Messrs. Kelway & Son, Langport, exhibited twenty-four varieties of *Gladioli*, for which a vote of thanks was awarded. Of these, first-class certificates were given to Dr. Hogg, a charming variety, the centre of the petals being white edged with very bright rose, and blotched with cerise; to Lady Aberdare, a large and crimped flower, bluish, blotched and barred with deep rosy purple; and Rev. J. M. Berkeley, a very full and smooth flower, cerise with scarlet flakes, a fine variety. Similar awards were made to Mr. Barron, Elvaston Nurseries, Derby, for *Cypripedium Lawsoniana* elegantissima, and *Retinospora tetragonia aurea*. The former is the most intensely golden of all Conifers, the stems as well as the foliage being yellow; and the latter is extremely attractive, is of pyramidal habit, green, heavily tinted with yellow, and of compact feathery habit.

Mr. Turner, Slough, exhibited eight varieties of Dahlias, two of which—Drake Lewis and Canary—received first-class certificates. The former a seedling from John Standish, and is exceedingly deep and full; it is of an intense scarlet colour, and

undoubtedly possesses great merit. The latter is a well-formed flower of pure canary yellow, and very attractive. Mr. Turner also exhibited *Rose Royal Standard*, which was certificated last year, proving that it is not only a good Rose, but is a continuous bloomer.

First-class certificates were awarded to Messrs. Froebel & Co., Neumunster, Zurich, for *Begonias Miranda* and *Otto Forster*. These are of the *B. imperialis* type, having plush-like foliage with light markings, and are distinct and ornamental.

Mr. Roberts, gardener to W. Terry, Esq., Peterborough House, Fulham, exhibited two plants in 8-inch pots of the striking *Gloriosa superba*. The plants were laden with flowers, and a vote of thanks was worthily awarded for them. Mr. Chapman, gardener to B. Reeves, Esq., North End Lodge, Walham Green, exhibited *Crinum giganteum*, and received a vote of thanks. A similar mark of approval was voted to Mr. Spinks, gardener to H. Quilter, Esq., Lower Grounds, Aston Park, Birmingham, for *Lobelia White Beauty* and *The Gem*, the latter being after the style of the pink variety *Omen*. Both these are evidently useful bedding kinds. Mr. Laing, Forest Hill Nursery, exhibited a self-coloured *Fuchsia*, Lord Beaconsfield, a very free-growing and profuse-flowering variety.

As may be seen in our advertising columns, some able gardeners of the Society are disengaged, whom the Council are desirous of recommending to those needing their services.

## OUR BORDER FLOWERS—BELLFLOWERS.

BELLFLOWERS are found in almost all parts of the habitable globe (many of them continuing in bloom for months), and are grown in most gardens, from the palace to the cottage.

Such kinds as *Campanula pumila*, *C. pulla*, *C. pusilla*, *C. Barrelieri*, *C. garganica*, are charming plants for summer for edging purposes. In some of our northern counties the last-named species may often be seen in many windows—one of the most beautiful of window plants, continuing in bloom for months. I have known *Campanula carpatica* used as a bedding plant, and for a light blue bed it is very effective. *C. muralis* is a lovely border plant, and ought to be in every garden and on every rockery, as should those named above. *C. hederacea* is a most attractive plant, requiring care, and in some situations protection; it is a charming plant in a cool fernery under glass. Perhaps the most striking kinds of the family are the blue and white *Campanula coronata*. They are telling plants for exhibition purposes, as are many other kinds. Many of them are useful for pot culture and indoor decoration. For this purpose none are better adapted than *Campanula Van Houttei*; it is one of the finest of the race. They are all easy to cultivate, and are easily increased by division. Some may be raised from seed. They require good sandy loam and drainage, water when required, and room to develop themselves. The taller kinds require staking to protect them from being broken by the wind. They will well repay any extra care bestowed upon them.—VERITAS.

## NOTES AND GLEANINGS.

At a convened meeting of the WIMBLEDON GARDENERS' SOCIETY held in the Institute on Tuesday evening, August 8th, to arrange for the recommencement of their evenings' reading and debating class, after a recess of two months, Mr. Ollerhead proposed that they should re-open their meetings with a social supper to which a number of eminent horticulturists should be invited, the supper to take place in the Lecture Hall, and to be arranged for on easy terms, so as not to shut out anyone residing in the outlying or other districts who may wish to be present or take part in the proceedings. Supper being over, a lecture or subject relating to horticulture to be brought forward for discussion. This motion met the unanimous approval of the members present, and a list of about fifty who were desirous to join was at once jotted down, which number is expected to be greatly increased. Those residing at a distance desirous to take part in the proceedings may communicate with Mr. James Ollerhead, The Gardens, Wimbledon House, S.W., on or before the 22nd day of August, as the supper is arranged for on the 25th. A vote of thanks to the Chairman (Mr. Ollerhead) closed a very agreeable and pleasant evening. Mr. Ollerhead was the originator of this Society.

A MEETING of the members of the PELARGONIUM SOCIETY will be held on Wednesday, August 23rd, at noon, in the Chiswick gardens, to inspect the collections of Pelargoniums growing there, and to discuss matters relevant to the objects of the

Society and its arrangements for the ensuing year. A luncheon at 5s. each will be provided at 2.30 P.M. for those who inform Mr. Barron (Royal Horticultural Society's garden, Chiswick, London), not later than the 21st inst. of their wish to partake thereof.

— At the Alexandra Palace, in Mr. J. T. Peacock's collection, there are at present three very rare AGAVES in bloom—*Agave laxa*, *A. Besserriana*, and *A. bromeliæfolia*.

— MESSRS. EWING & Co., nurserymen, Norwich, have sent us fruits of two sorts of PLUMS both ripe with them some time before Rivers's Early Prolific (both are ten days later this season than usual). Blue Perdrigon they have been gathering this season since the 7th of July, and it is of fine quality as usual, and a great bearer. Hubbard's Early Prolific is just (August 11th) coming fit; this is a great bearer, but the quality is poor; in size it is superior to Rivers's Early Prolific. The only two places round Norwich having a fair crop of Plums this year are their own orchard, and the other at Somerleyton Hall near Lowestoft. In the latter place the large Apple trees are nearly destroyed by American blight. In west Norfolk the market gardeners talk of Plums being worth 1d. each.

— QUITE a feature just now in the border outside the curvilinear range at Glasnevin is *CRINUM ORNATUM*. Fancy a *Crinum* with a stem nearly as thick as that of the giant *C. amabile* of our stoves, with flaccid spreading leaves, each some 5 feet or more in length, and where widest half a foot broad, with a flower stem 4 feet high, and thick and stout as a walking-stick, and crowned with an umbel of a score of pendulous, white, rose-tinted flowers, each nearly as large as that of the *Belladonna Lily*, and the reader will have a good idea of this grand *hardy* Amaryllid. Yes, perfectly hardy; for some six years or so have it and its companion plant, *C. Moorei*, stood out without the slightest protection, and among these years were some of a character to make the test of hardihood one of the most crucial kind. These two magnificent *Crinums* are gains indeed to our gardens, and for their introduction and the interesting fact of showing their hardihood the lovers of choice hardy plants have reason to feel indebted to Dr. Moore and Glasnevin. There are several other new and interesting plants in flower there just now, among others the stately *Natal Hyacinth*, *Hyacinthus candicans*.—(*Farmers' Gazette*.)

— MR. THOMAS SHORTT writes that *GLOBIOSA SUPERBA* is quite hardy, and succeeds if planted in light rich sandy soil in a dry situation—at the foot of a wall or on rockwork, perfect drainage being indispensable. A few ashes or fern placed over it will be of service in severe winters.

— THE application of the term *MOTHER*, whether to plants or other natural objects, intimates that it was considered the origin, the parent of some specialty. "*Mother of Thyme*" intimates that it is the producer of incense, it is fragrant all the year; both in Greek and Anglo-Saxon *Thyme* refers to incense or perfume. "*Mother of Pearl*" is a lining of the shell of the oysters which yield pearls. "*Mother of Millions*" is the popular name of the *Linaria Cymbalaria*, and was supposed by the old herbalists to promote fecundity.

— WE earnestly commend the following extracts to our readers, and emphatically say "Do likewise."—"It has been one of my greatest pleasures during the past year to distribute some hundreds of bunches of flowers to the sick and infirm poor, and in every case the gift has been received with grateful thanks. Through the kindness of those who have sent the flowers, often the choicest their gardens afforded, many a lonely widow's heart has been made to rejoice, and many a sick one has been cheered and helped on towards recovery: and the rich perfume they shed in the sick chamber has at once been a solace and a joy. One poor old lady who had been ill a long weary time, when I took her a bunch of flowers said, 'It was like bringing the Garden of Eden into the room.' Another, who had not spoken for a long time, found her long-lost speech in praise of a beautiful little bouquet I had placed on a table at her bedside. Cases might be multiplied, the only difficulty being to find one where the flowers have not been like angels' visits." "The following is from the matron of our General Infirmary:—'Flowers in the wards of a hospital not only help to enliven the dull monotony of the wards, but, by affording some new train of pleasant thought, they enable the patients, for a short time at least, to forget their sufferings. Often have I seen the pained face of a patient light up with a smile at the sight of a few spring flowers. Rely on it, it is such small delicate attentions as these, showing that some-

body takes an interest in them, and looks on them, not as logs of wood, but as men and women having sympathies and affections, that make all the difference to the comfort and contentment of the sick. The following instance shows how the flowers are valued:—A fisherlad of sixteen had his leg so severely injured that amputation was necessary. A day or two after the operation somebody sent a present of a few Violets, and the notice and care he took of them would have well rewarded the donor. One day an attendant pretended to take them away, on which he said, 'No! you may take away my dinner or my wine, but you must not take away my flowers.'"

—(*Report on Distribution of Flowers at Hull in 1875.*)

— THE "American Gardeners' Monthly" states that "the EXHIBITIONS OF FRUITS at the Centennial promise to be a great success. Horticultural societies from Iowa, Michigan, Kansas, Indiana, Massachusetts, Ohio, and Canada have asked for space for ten thousand plates for the 12th of September exhibit. It will no doubt be the most wonderful sight ever seen in the world, and Philadelphia ought to be the great central point for horticulturists in September, 1876." It is further stated that a choice collection of plants exhibited by Messrs. James Veitch & Sons of Chelsea have been presented to the city of Philadelphia.

## THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 11.

RAPID have been the changes that have passed over London nursery gardens during the last fifty years; so much so, that a map of London prepared to indicate these in the "good old times" when the Prince Regent had become King, and one showing the present extent and localities of these useful establishments, would exhibit a wonderful contrast. Only here and there does a nursery survive which approximates to the busy parts of London, and the owner of which has refused to listen to "the voice of the charmer," preferring to go on in the old style that his father, or perhaps his grandfather, did before him, though the smoke of the metropolis is sadly opposed to his successful cultivation of any plants that require a pure atmosphere. And in these days, when it is so easy to convey plants, flowers, and fruit from one place to another, there is little need that a man should locate himself near the metropolitan districts, and those are the wiser cultivators who have chosen spots some ten or twelve miles out on the pleasant slopes of north Middlesex, Kent, or Surrey. Yet somehow one laments over the nurseries that have vanished and fled with all their greenery to make place for long lines of doors and windows and the bustle of London streets; but even more disagreeable to a person of any taste at all is the aspect of a neglected nursery garden, where the paths are overgrown with grass or trampled out of outline, the buildings are in a miserable state of dilapidation and besprinkled about with smashed glass, while on the beds innumerable weeds disport themselves. Such was the condition of the once-celebrated Sloane Street Nursery, the career of which has now closed, when I visited it a few days ago. It is satisfactory, however, to find that the land is neither to be built upon nor to remain in its wilderness state, but that by-and-by it will be laid out afresh, and under the name of "Cadogan Gardens" serve as a resort for the well-to-do residents of the streets overlooking it. The juveniles will be cared for, doubtless, and croquet lawns with flower beds will serve to delight visitors of all ages, and with judicious management the existing shrubberies can be utilised. But it will not need the lapse of many years to make people forget its history as a nursery garden, which goes back to the time when Chelsea was separated from Pimlico by that ominous waste designated the "Five Fields," and the glories of Ranelagh were fresh in the memories of the folks living in the neighbourhood.

A hundred years ago or more there were two contiguous estates in Chelsea, one much larger than the other, known as "Whitelands" and "Blacklands." The latter of these, indeed, extended into Pimlico and Knightsbridge, consisting of something like a hundred acres. Old chroniclers have not troubled themselves to explain the origin of the name, and my conclusion on the subject is this, that "Blacklands" was not thus called from the actual tint of the soil, but because the surface appeared dark through its being covered with the purple bells of the Heath (*Erica tetralix*). The sandy soil would suit the plant, and there is extant evidence that it once grew plentifully on the common which adjoined the Blacklands

estate. As in the eighteenth century—at least during its early part—people very absurdly called a man “black” who was only of dark complexion, it is quite conceivable that Londoners called a plot of land black which was purple and dark green by reason of the plants covering it. Of this land, in 1771, Mr. Holland took a lease and commenced building upon it, though the work proceeded slowly, and large portions of the ground were still in hand at the beginning of this century; and hence the owner was but too happy to allow some six acres abutting on the then newly-formed Sloane Street to be laid out as a nursery garden. In fact, however, the aims of its originator, as we shall see, went beyond that, and he projected a kind of botanical garden, which was to afford instruction as well as recreation to the west end of London, so that he deserves honourable mention as a pioneer in a direction where much yet remains to be done, for the study of botany needs further popularisation, and especially is it still insufficiently taught in our middle-class schools. Brewer, in his account of Middlesex, credits the illustrious botanist William Curtis (well known through his “Botanical Magazine” and other valuable works) with the establishment of the Sloane Street Nursery; but as he was peaceably interred in Battersea church in the year 1799 there must have been a mistake about this, since the nursery dates from 1807. Possibly the scheme may have been spoken of in his lifetime, though circumstances postponed it. He and his partner, Mr. Salisbury, had a nursery ground at Brompton or “Little Chelsea,” concerning which there is a lack of information, and after Curtis’s decease Mr. Salisbury decided to remove to Sloane Street. This was the same Mr. Salisbury who had at one time a fine piece of property at Chapel Allerton in Yorkshire, and who subsequently became possessor of a large garden at Millhill which had been formed by Mr. Collinson. The Sloane Street Nursery having an extent of about six acres—more than double the ground belonging to the older Apothecaries’ garden on the bank of the Thames—was regarded as of little less importance by the botanists of that day, and indeed it was dignified with the title of “Botanical Garden.” Nor was the epithet unmerited, for on the original plan carried out by Mr. Salisbury the greater number of the hardy and half-hardy plants were arranged in divisions according to the Linnean system, and therefore we may presume also labelled for the benefit of those persons inspecting them. Botanical lectures were given in the months of May and June, and a library was commenced containing not merely books on botany, but on entomology in addition, and some upon general natural history; and it does not surprise us to read that entomological works were placed here when we find that amongst the frequent visitors to the gardens was A. H. Haworth, the painstaking collector of British and foreign insects, and who is said to have captured the first specimen known of that bee parasite *Stylops Melittæ* at Little Chelsea in 1797. Besides his entomological attainments he was no mean botanist, and his “Observations on the Genus *Mesembryanthemum*,” his “Synopsis of Succulent Plants,” his “Revision of the Narcissuses,” and his “Enumeration of the Saxifragæ,” though now to an extent obsolete, bear testimony to his attainments.

Faulkner in his history of Chelsea dwells with much satisfaction upon the delightful promenade these gardens afforded, though at that time the trees must have been comparatively young. One is inclined to doubt his assertion that the walks were so contrived that an individual could walk nearly two miles without having to re-enter a path along which he had already been. The greenhouses and forcing houses were at first few in number, and the practice of forcing plants by hot-beds with dung placed behind walls of boards was followed, though Salisbury’s successor advanced beyond this very primitive mode. This successor was a Mr. Tate, who was, however, somewhat annoyed by the interference of the inhabitants, who seem not to have admired the scientific element that had been brought in. Greater facilities were given for the use of the ground as a promenade, the name “Botanical Gardens” was dropped, and the interior of the place laid out differently, the Linnean arrangement being superseded. It was in 1820 that Mr. Tate became the occupant of what was now called the Sloane Street Nursery, and from a recent examination I conjecture the disposition of the ground has not been altered much for fifty years or so. The outer walks or shrubberies, enclosing open spaces in which flowers, fruit, and vegetables were cultivated (not many of the latter, apparently, of late years) are still suggestive of Salisbury and Tate. There is an overpowering number of Lilacs, Laburnums, and Elms, while the Elder

and Hawthorn figure here and there, and there are scarcely any of those exotic shrubs and trees now so common in gardens and shrubberies. In one part I was rather amused to discover a row of English Hazels, to the nut-producing power of which London smoke has not been favourable, nor as a rule is this a tree grown for the purpose of affording shade in our nurseries. Of shade there must surely have been almost too much in this nursery; and though there would be plenty of that valued article leaf mould (for lack of which it is said the trees in our west-end parks suffer severely), one can fancy the grumbles indulged in by those who had to sweep the walks and clear the beds in autumn. And when there was a rich London fog of the kind the metropolis was more familiar with a score of years ago than at present, thanks to improvements in drainage, the shrubs must have kept it in after it had settled down in the open plots towards the centre of the nursery, a result also aided by the fact that the whole ground sinks below the level of the surrounding thoroughfares.

As a proof how largely Mr. Tate helped to advance horticulture by his cultivation of exotics, especially under glass, Mr. Faulkner quotes the names of some of the recent additions to the nursery, when he wrote in 1829. Mr. Ballock had supplied Mr. Tate with many Mexican plants collected by himself; and Mr. Ackerman, who had travelled in South America, others from that continent. Capt. Paterson contributed to the collection a variety of Chinese species, including several new and choice Azaleas. From Mr. Brown Ceylon plants had been sent in, notable amongst which was *Barringtonia speciosa*. Mr. Staples had procured many rare plants, especially Cacti, and Lady Amherst species from various countries. The collection of Orange trees was pretty large, Faulkner says, surpassing then any other collection in the neighbourhood of London. It was with a peculiar interest that I surveyed some dismally ragged Azaleas now growing here that were struggling against the combined hostility of the dry weather and a swarm of Thistles, for I imagined them to be the descendants of those referred to by Faulkner.

This nursery, now just closed, had been for many years in the hands of a family of the name of Tuck. Soon after, Eaton with other Belgravian squares began to cover the land called the Five Fields. Mr. Tuck occupied one of the enclosed six plots in Eaton Square as a nursery garden, at that time the Square being far from completion. This was the central plot on the right looking towards Chelsea; but as ere long, with increasing houses, the residents required that the whole space should be given up to their use, the nurseryman had to withdraw—somewhere about the year 1842 I think; and probably Mr. Tuck’s connection with the Sloane Street Nursery dates from that time, though I cannot ascertain the precise period of Mr. Tate’s decease or his relinquishment of possession. Some of the buildings would date back thirty years, perhaps erected by Mr. Tuck on his entry; others are evidently much older.

It seems a pity that, as at this moment, weeds should be suffered to run riot over the ground, and since official persons must move slowly in improvements, delaying the re-arrangement of the place, it would have been as well to have given away the remaining plants, instead of leaving a large percentage to die of neglect. In such cases it is always curious to note what weeds grow most profusely, and besides Docks and Thistles, I was struck with the abundance of the Dog’s Mercury (*Mercurialis perennis*), and rather astonished to see sundry specimens of one of the native St. John’s Worts (*Hypericum* sp.), with such flourishing young plants of *Conium maculatum* that I thought of attempting to drive a bargain with some of the chemists in the neighbourhood. I should have stated before that there is a tradition to the effect that the American blight was first observed in England upon an Apple tree in this nursery.—C.

#### LARGE ROSE FOLIAGE.

THE Rose tree from which the leaf was taken was purchased by me from Mr. R. Smith of Worcester, and is a *Maréchal Niel* grafted, I believe, on the *Manetti*. It was in a pot when I received it, and was planted out in the border of my greenhouse about the latter end of March. About the spot where it was planted existed an old cesspool. I presume that the roots in their search after food have found this out. If this be so it only shows what rich food the Rose will digest. Since it has been planted out in the border it has not blossomed, but it has made an average growth of from 12 to 15 inches



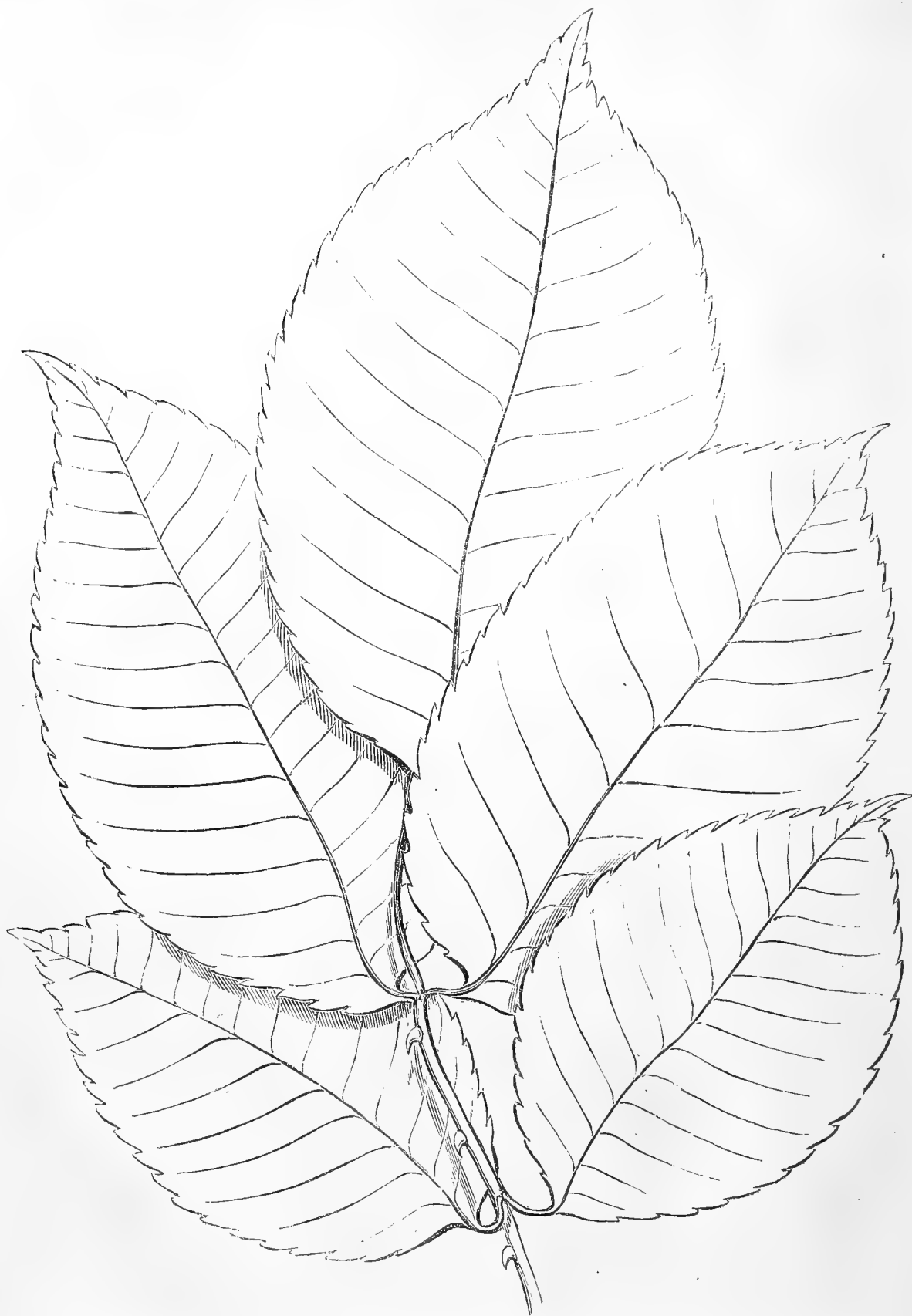


Fig. 17.—LEAF OF MARÉCHAL NIEL ROSE, NATURAL SIZE.

a-week. This fact was pointed out to me by some workmen who were fixing some hot-water pipes, and they took the trouble to actually measure the growth from week to week. It has many of its leaves, I think, quite 12 inches long, and the sight of them hanging from the roof is very grand. If anything, it seems to increase in vigour and strength. I have two other plants of Maréchal Niel planted out in the same border in rich soil, but they are pigmies in comparison.—H. W. SOREL-CAMERON, *Belvidere, Weston-under-Penyard, Ross, Hereford.*

[The accompanying woodcut is an exact copy, and of the exact size of the Rose leaf.]

## EARLY WRITERS ON ENGLISH GARDENING.

No. 17.

WILLIAM FORSYTH.

He was born some time in 1737 at Old Meldrum in Aberdeenshire, and was there early initiated in the horticultural arts, but completed his pupilage by being placed during 1763 under Philip Miller at the Chelsea garden of the Apothecaries' Company. At Miller's recommendation he obtained the head gardenership to the Duke of Northumberland at Sion House—a situation which he resigned in 1769 to succeed his old master in the curatorship of the Chelsea garden. He retained this appointment until 1784, and then resigned it upon succeeding Mr. T. Robinson in the office of the Royal Gardener at Kensington and St. James's. He held this appointment until his death, publishing during the tenure of his office, "Observations on the Diseases, Defects, and Injuries in all kinds of Fruit and Forest Trees, with an Account of a Particular Method of Cure Invented and Practised by the Author," 1791; and "A Treatise on the Culture and Management of Fruit Trees," 1802. In 1804 he died; and but for one circumstance, the testimony of his friends that he was "benevolent, unaffected, modest, and worthy," might have been inscribed without comment beneath his portrait. We are told that from the year 1768 down to 1789 he devoted much time to the cultivation of fruit and forest trees, but especially towards the discovery of some composition to remedy their incidental diseases and injuries. He laid claim to success in his research after this sanitative composition, for we have seen that he published "an account of a method of cure *invented and practised*" by himself, and Government gave him £1500 for the discovery. They proposed to double the sum upon certain facts being established by him; but in the meantime Mr. Knight, then President of the Horticultural Society, stepped forth in the discharge of a distasteful public duty—to dispute Mr. Forsyth's title to any reward. We have had occasion to examine minutely into the merits of the contest, and regret to have arrived at the conclusion that the composition Mr. Forsyth employed was borrowed from Hitt and other writers upon the cultivation of trees, and that the cures he alleged to have effected were not of the extent or importance certified. Mr. Forsyth's plaister for healing the wounds and restoring to vigour decayed trees was as follows:—One bushel of fresh cow dung; half a bushel of lime rubbish, that from ceilings of rooms is preferable, or powdered chalk; half a bushel of wood ashes, one-sixteenth of a bushel of sand; the three last to be sifted fine. The whole to be mixed and beaten together until they form a fine plaister. Now, there is nothing in this compound sufficiently differing from others recommended by his contemporaries and predecessors to entitle him to call it his invention; but supposing that an arbitrary difference in the proportions of the constituents suffices to sustain such claim, still what can be said in defence of his assertion that that composition has filled with young wood the hollow trunks of timber trees, and that he had in his possession parts of the trunk of a tree in which the new wood by the efficacious power of his "poor tree's plaister" had been made to incorporate with the old, and that trees so cured were rendered as fit for the navy as though they had never been injured? Every gardener, every physiologist, knows that this could not be true. New wood and new bark may be induced to grow over old wood, but no power, no application, will induce them to unite to it. It is quite true that Dr. Lettsom, Dr. Anderson, and others, who ought to have been more circumspect, certified that Mr. Forsyth's statements contained "nothing more than the truth;" but they afterwards either acknowledged that they did so on evidence that ought not to have been deemed sufficient, or that they meant no more than to testify in favour of "the utility" of Mr. Forsyth's plaister. Of this there can be no doubt, because every application excluding the rain and

air from a tree's wound is of great "utility." It is also quite true that Mr. Forsyth received a parliamentary grant of money, but it was granted upon inconclusive evidence, and, as Mr. Knight observes, affords a much better proof that he was paid for an important discovery than that he made one. The whole of the correspondence on the subject between Mr. Knight and Dr. Lettsom can be referred to in the seventy-fourth and seventy-fifth volumes of "The Gentleman's Magazine," and may be read as a warning how literary controversy should not be conducted. Dr. Lettsom had rashly attested to the truth of that of which he was not a competent judge, and had not the noble candour to seek a fair examination; whilst Mr. Knight poured forth insinuations and charges in a wrathful tone, very unbefitting either a philosopher or a gentleman.



Fig. 18.—W. Forsyth.

There is much relative to this plaister in the "Forsyth Correspondence" published by us in the *Cottage Gardener* in 1851. In the November of 1799 Mr. Forsyth's wife died, and in the "Correspondence" there are testimonies of her excellence. I do not know the number of their children, but two sons are mentioned in the letters.

Besides the works named above Mr. Forsyth published "A Botanical Nomenclator" in 1794, and on "Gathering and Preserving Apples and Pears." He also contributed to the Transactions of the Board of Agriculture on various modes of promoting gardening among all classes.

Mr. Wedgewood, writing to Mr. Forsyth in 1801, first proposed the establishment of a society which ultimately became our Royal Horticultural Society. The genus *Forsythia* was named in his honour by M. Vahl.

## THE ARRANGEMENT OF PLANTS AND CUT FLOWERS FOR INDOOR DECORATION.

IN disposing of an assortment of plants in bloom to produce a general harmony of colouring in a mixed group, or even in making a nosegay, the same colours should recur at least twice if not thrice. One of the masses of colour ought to be larger than any of the others of the same kind, and the other one or two masses or specks ought to be of different sizes, and not so far distant from the first or principal mass as not to be easily recognised by the eye. This necessity of two or more portions of colour of a principal mass, and of secondary

specks, is derived from the principle that there must not only be parts but predominating parts, all tending to one harmonious effect. Therefore, in arranging flowering plants in a conservatory, or for the furnishing of rooms, each colour should be carried on in the same manner throughout.

One great object in grouping plants and flowers in conservatories, rooms, vases, baskets, and epergnes for dinner-table decorations, is not to have a bewildering excess of gay flowers. It requires good taste to manage many colours without producing weakness and confusion. The great need is to have a background and a carpet of green. The *Lycopodium denticulatum* is the best carpet plant that I know of for the purpose. Any green leaves will do for the background. Then, if your plants are all in flower, this is the place to show them off to the best advantage. Do not crowd them, but scatter them about in clusters with some of the choicest gleaming up in unexpected places. Such groups are very effective.

In dinner-table arrangement the safe rule is to keep to simple contrasts. I have seen tables look hideous with clumsy piles of flowers dressed-up, trimmed, and stiffened, and made so artificial that all traces of nature were lost, their leaves stripped off, and the colours pressed-up together with scarcely a twig or green spray to be seen. The tide does, indeed, seem turned against the crowded flower-stands, and the heaped-on colours that used to fill-up epergnes and encumber drawing-rooms and dinner tables.

Nothing has done more to bring about this change than the good taste of the judges at flower shows. People have such different tastes in arranging flowers that it really becomes a difficult point to write upon; still everyone can say what they have seen look well. I for one have great faith in decorations that look natural and graceful, and that can only be achieved by a free use of foliage plants. Ferns being the most suitable, their fronds being so beautiful, and they enhance also the beauty of flowers.

It is a safe rule to vary the shades and quantity of green according to the flowers—namely, if the colours of your flowers are bright, and red predominates, the foliage must be dark green and plenty of it. If the flowers of these shades are delicate the green may be delicate also and less of it. This lesson with many more we can take from nature. In the spring all nature is decked with pale green bespangled with soft delicate colours, and as the season advances the greens darken and the flowers brighten. Surely from this we might learn how to arrange them best as a work of art. Who can look at the colours of nature so bright, so bold, so sensitively soft, so freely distributed, yet so charmingly adjusted, and not learn a lesson therefrom? The groundwork always judicious in tint heightens the lustre of all above it. Look at the tints upon the rock—every shade of grey and gold, green and red; the beautiful Heather and shining golden Gorse, with blue and grey marl and stones—a mingling of such colours that cannot but be admired. Who could find fault with our moors and mountain sides covered with the rosy flush of the pink Heath Bells, and near them the ground carpeted with Blue Bells, the purple Violets, and the Primrose tuft nestled beneath the bowery hedge on which hangs the wild Rose interwoven with the waxy Honeysuckle with its coral points and ripening berries clustering, and waving, and twining themselves into garlands? In nature we see flowers that hang on and festoon the steep sides of rocks, and the dark brown trunks of trees, and that cling to old grey walls. Then from nature let us take our directions for the arrangements of flowers for the drawing-room and dinner table.

We must say something about the vase containing them. Brown baskets, white marble, and glass, these are the most suitable in which to group flowers. The glass vases, baskets, and stands that Mr. March designed are particularly appropriate, and are generally admired.

In a group of three the centrepiece should be the keynote, and ought to be a few inches higher than the others. They should be filled with flowers distinct from those in the two ends, which may be made to match. The general arrangement has to be considered, and must be ruled by a colour agreeing with the centrepiece, that the colours may make a harmonising whole. On the contrary, if the three vases were to contain the same coloured flowers we should have a most heavy-looking and yet disjointed picture.

The loveliest vases that I have seen exhibited were those shown by Miss Hassard of Upper Norwood. Her arrangements are exquisite, they have always a light and elegant appearance. The feathered Ferns are placed to form a drooping ring of fresh

green fronds around the edge of the vase. This seems to be the first consideration. Then all around again a fringe of drooping flowery sprigs of brilliant colours spreading and nestling in the cool green Fern leaves. Then the centre is filled with harmonising colours, the full beauty of every flower being visible, and to give a still more natural effect a few tasseled spikes of Grass are seen dotting and waving above the whole. All is done with a truly artistic touch, grouped and shaded without a discordant tint.

If we have flowers which do not accord together they force us to crowd them, and half the beauty of flowers consists in the graceful shape of each special spray, and it does seem perfect waste wedging and massing as much together as, if rightly used, would be sufficient to fill half a dozen vases.

After mentioning the principles which guide us in the arranging of flowers it is not necessary to dwell in detail of the varieties to be used, for these are decided by local circumstances, and are dependant for their effect on individual taste and dexterity.—N. COLE.

## ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 1.

To say that every Englishman has an innate passion for tree-planting is a truism which needed no Washington Irving to inculcate it, though indirectly his testimony from across the Atlantic evinces the superiority of this passion to the accidents of country or climate. It is a fact that Americans grow rapturous at the sight of the stately Oaks and Elms of the mother country, as if discriminating between these adornments of our parks and gardens and the giant tenants of their own forests and prairies, with a partiality for the former. But that this penchant is exceptionally national becomes more patent if we attempt to assess the difference between the associations of the ancients as to forests, trees, and woodland scenery, and those which they call up in the British mind. While Greeks and Romans seem to have identified a plantation with a dense, dark, or sadly-sighing body of trees, they are seldom found exulting in the changeable hues of the greenwood, the soothing walk under the bee-haunted Limes, or those sylvan courts of leafy verdure which tempt the most unromantic to envy the forester and sigh for the freedom of Robin Hood and Maid Marian. Athens, it is true, could boast its Oaks of Parnes; but these were most considered for the sake of their charcoal, the Olive being the tree which quickened, beyond others, the pride and enthusiasm of its poets. There were Beech groves in the mountain districts of Greece, on the range next below the Pines; but the Beech does not seem to have had any strong attraction for the Greek eye, though its glossy green is such a charming feature in our parks and glades. The Plane, indeed, in their poetry meets with the commemoration due to its light green feathery foliage; but if we pass in review the items of Greek arboriculture, it will be seen that the Fig and Pomegranate claim scarcely less notice, and that perhaps their chief affection was bestowed upon the Cypress and Myrtle, the Tamarisk, and such lesser shrubs. From the Romans no doubt Great Britain derived not only a goodly addition to her indigenous trees, but also the first rudiments of the culture of this class of products. Besides our best fruit trees, they are held to have naturalised the Chestnut, Lime, Sycamore, Box, and Laurel. They may also have introduced the Beech, seeing that, according to Cæsar, it was not found in Britain, and that its Welsh name *Fawydd* (th. *Fagus*)—(Hereford derived its Welsh name of *Tre-fawydd* from the Beech trees near it)—smacks of a Latin origin. The English Elm, too, which is essentially a southern tree and rarely seeds in England, may easily have been introduced by them with the Vine; and to them in all probability we owe our first initiation in forestry, the art of rearing coppice-wood for Vine poles, Willows for wicker-work, and timber for house and ship-building.

Howbeit we have outstript our teachers; and, as much from inborn predilection as from a constant tradition of the pleasure and profit of tree-planting, so far covered with indigenous and imported tree growths the hills and dales, the waste places and green swards, the suburban spots and rural spaces of our island, that its levels are disguised by a variety of belts and coverts; its uplands clothed with Larch and Firwood; its parks and gardens embellished by ancient sylvan giants and audacious rivals from across the seas; its lesser holdings dotted with fancy Conifers and interesting triumphs of persistent acclimation; and, to come to London and our great cities, each square and crescent has its mimic park. There are

many reasons for this. Not only is it a matter of general experience that timber, whether in large or small quantities, is remunerative from its applicability to building and repairs, but our soils and climate, we find, may be sensibly improved by judicious planting. By this we may shut out the importunate blast, by this screen off the burning sunshine. The effect of such shelter is to double the value of inferior tracts; and this both because the influence of woodlands softens the temperature and conciliates the fertilising rain, and also because trees enrich the soil by deposits of vegetable matter, and by their roots open up the land to the action of air and water. Not often, perhaps, is the impulse to plant traceable to such solid and scientific causes: it is mostly due to the sense of delight and admiration which an owner of land—be his paradise a few acres or half a shire, it is all the same—experiences in having a hand and a voice in the laying-out of his demesne; in visiting and revisiting his copses and nurseries; in watching his trees and shrubs wax in grace and stature, till they become to him a living interest, and he notes their habits as fondly as those of his children. So fruitful and attractive is the practical study of the subject, that it is a wonder we have suffered our neighbours across the Channel to be beforehand in the institution of colleges of arboriculture; unless, indeed, it be that, as we observed in the outset, in England every man is *in esse* or *in posse* his own planter, and it is a rare exception to find a proprietor who would devolve on a Nesfield or Capability Brown the experiments in landscape gardening which make up half the charm of the country gentleman's existence. Indeed, there are few fields in which the errors of inexperience may be retrieved more easily than in tree-planting; for though it may often occur that a single tree or a group proves a mistake in a given situation, it is exceptionally rare to find cause of regret in judicious thinning, or timely removal to another site.

So many excellent treatises on the planting of trees and shrubs have issued of late years from the English press, and Mr. Laslett's recent volume on "Timber and Timber Trees" deals so exhaustively with the commercial and economical aspect of the subject, that for details we might well leave the field to the weighty authorities named at the head of the present paper. It is beyond the scope of a review to linger upon cautions when and how to plant, or to supply the reasons why, in a stiff soil, the holes into which young trees are to be inserted should exceed the average 2 feet square and 18 inches in depth. Yet it may not be labour wholly lost to set down in what follows a few results of blended book-lore and observation, and to gather up from the romance and the realities, the accomplishments as well as the possibilities of arboriculture, persuasive to the deeper study and practice of it by every grade of landowners.

Amongst this fortunate class—fortunate, let us hope, in spite of the tendency of the unlanded classes to cast on the soil as many national burdens as the agricultural worm will bear without turning—those are most to be felicitated who find park and forest ready to their hand, and who have not so much to project fresh plantation of undulation and upland as to study the art of judiciously thinning, and to ascertain by what hardy native or well-recommended foreigner to replace some giant of the chase which the wind has prostrated. Yet even such have a deep interest in the experiments of acclimatization, and rare opportunities of adding novel grace to the native charm of their ancestral homes, there being this satisfaction in such introductions, that the old tree-tenants never regard new comers as interlopers; but Elm and Lime, Oak and Ash, Larch and Scotch Fir, evince the friendliest of spirits in harmonising with Cypress and Juniper, Deodar and Cryptomeria, the bright green Abies Douglasii, with its pale glaucous under side, and the pyramidal form and darker foliage of the spreading Wellingtonia or Sequoia. To the founder of an estate, the planner of the leafy shelters that are to protect, adorn, and ventilate his rising mansion, there is a more arduous field; one, however, in which (given thought and patience, with a grain or two of taste and an eye for landscape) he cannot easily go astray.

As a rule, his home, whether it is large or limited, will have a southern aspect; and in either case there will be more or less need to plant out the north. Where it is a question of park or parklike grounds, it is well to do this with a thick and dark massing of trees, so as to give an impression of depth to the northern boundary line, and to make the mansion stand out effectively from its background of dark-hued Conifers and of denser deciduous species. The actual depth of such a wooded background is of less consequence than the apparent;

but it adds vastly to the aspect of the demesne to have its northern boundary indefinite, and disguise or deception herein is perfectly admissible. The books recommend that such a plantation should be continued with wings of a bold sweep to east and west; and this may be correct in principle. But it may be doubted whether such a continuation would avoid the risk of over-formality, as well as of seeming severity, suggestive of a prison house or lunatic asylum, or one of those gloomy and isolated chateaux which would have exercised the fertile imagination of the horror-loving Mrs. Radcliffe. Shelter from the east, as, indeed, from the west, is desirable in due measure; but there may be excess of shelter no less than defect; and we believe that a practised eye will insist upon these particular barriers being broken and partial. A system of belts or groups, some more or some less distant, would have the desired effect; and if, perchance, on either side the frontier ground is a rising one, it is only to plant it with Larch or Scotch Fir to secure a perennial source of pleasure and profit. For the rest, the principle to follow is simple eye-service. If there is an unsightly feature to hide in the foreground it may be hidden by a well-plotted clump; if over another part of it the green sward stretches in a too unbroken range, or is diversified only by an ineffective hillock, it needs but to congregate there a few graceful trees, and you have the nucleus of a thing of beauty which will win upon the eye as it becomes developed by growth and years. In moderation, too, single trees should diversify the foreground: it is the best chance of rearing specimens that may hereafter be a glory of the district or county. An Oak, a Spanish Chestnut, a Wych Elm, thus expatiating in the liberty and range of the open ground, are worth turning aside to contemplate, and are so deemed by others than the poet or the sentimentalist. More than once have we seen a Larch, which, because it had enjoyed this freedom and never suffered the loss of its lateral branches through the proximity of other trees, has developed a grace and beauty second to none of the choicest Conifers in a habit of pendulous branches clothing its stem from head to foot.

One other special call for the planter is to the lake-side or stream-bank. To these he may add a new attraction, giving reduplication (so to speak) to the one by the trees which interrupt the uniformity of its expanse, and canopied by the other with subjects of weeping character and habit, arranged judiciously. Judiciously, we say: because the eye may tire of Weeping Ashes and Kilmarnock Willows; and while the mean between bareness and unbroken shelter is undoubtedly the thing to aim at, there is less risk of having to practise repentance after thinning the leafy guardians of a lake border than for any like exercise of the woodman's axe. Of course there are special trees for the waterside, as also for islands and other aquatic positions; but of the specialties of arboriculture, the likes and dislikes, aptitudes and inaptitudes of this or that hardwood or softwood timber tree we shall have to speak presently. What is more pertinent to this stage of our survey is the remark that what has been laid down as to parks and large grounds applies *mutatis mutandis* to smaller home-environs. The narrower the limits, the less field for multiplication of groups and clumps: but the shrubbery, the belt or border, which shuts out the oversight of unavoidable neighbours; the single specimens of curious tree or shrub, evergreen or deciduous; the study in these of harmony and contrast of form and colour; the avoidance also of undue encroachment on the green sward, and undue contiguity to the dwelling—these will be the pleasing solicitudes of the rural or suburban proprietor, whose area is more limited, but whose pursuit of arboriculture may be as intelligent and enthusiastic as that of the owner of a "dukery." With the former it is possible to refer to the records of the birth and growth of every tree in the garden. All are as children or congeners to their owner. Of the broad Oaks in the chases of Clumber or Belvoir, who is to say whether the planter may not have been—long, long ago—

"that bird, which instead of wings  
Hath a spirit within him, that soars and springs—"

that most indefatigable of Oak planters, in his busy trade of transporting and burying acorns—the squirrel? Most of all, however, does the limited owner require to be on his guard against planting too near his house. A bright green or a gold-spangled dwarf is a pretty object beneath your west windows, or even those to the south-east, if there is tolerable shelter; but these dwarfs are apt to outgrow their early conditions, and without timely removal come to such dimensions that if they do not interfere with the chimney smoke, or clog the atmosphere which it is the office of trees to keep in a state fit for breath-



ing, at any rate they promote damp or mildew, and frustrate the growth of climbers and wall plants which might also have caught the sun that their bulk intercepts. Whilst a stretch of 60 acres will afford room for Oaks and Elms, Beech and Lime, Chestnuts, Sycamores, and Maples, as well as for Larch and other less everyday Conifers in suitable situations, and admit of the diversities of avenue, wilderness, grove, thicket, and clump, to say nothing of contrasts of colour in the foliage of the several seasons, it will be the wisdom of such as have but a tithe of that acreage to lay out to go in rather for a few choice Cedars, Pines, or Firs—hardy, ornamental, and useful, and to be content with the deciduous trees ready to hand, an Oak here and an Elm there, of such beauty and dimensions mayhap, that once felled no experience in choosing the most rapid-growing substitute could succeed in replacing it in a lifetime.—(*Quarterly Review*.)

## NOTES ON VILLA AND SUBURBAN GARDENING.

**THE PROPAGATION OF BEDDING PLANTS.**—No doubt it is quite right to advise amateurs to commence propagating as early as possible. My reason is that by beginning early almost all kinds of cuttings can be struck out of doors. One good and easy plan, as well as an economical one, is to level a piece of ground on a border exposed to the sun, and if possible to obtain some road grit or coarse sand and mix it well with the soil to about 4 inches in depth, breaking it up very fine with the rake, and then put a layer of road grit or sand mixed with leaf soil if it can be obtained, and if not good garden soil will answer very well, this to be placed on the surface about 3 inches thick, and to be made firm and level. In this the cuttings should be placed firmly and of a uniform distance apart. If the soil is dry the cuttings will be fastened by the quick return of the soil around them as they are put in, but if moist care must be taken that as the work goes on each cutting goes to the bottom of the hole and is properly fastened by the stick with which they are put in, then a plentiful watering will make all right. No doubt the sun will cause many of the leaves to drop off, but this must be considered as a natural consequence and in no way detrimental to the cuttings; and it is best not to attempt to pull off the decayed leaves until the cuttings are rooted, or the chances are that they will be disturbed and then die off. They must not be shaded, and if they are judiciously watered and a proper selection of cuttings made they will bear all the sun and will soon emit roots. The sorts that may be struck in this way are all sorts of Geraniums both plain-leaved and variegated, as well as Ivy-leaved sorts; then come Gazanias, Mesembryanthemums, and nearly any other sorts of bedding plants that possess vigour of constitution sufficient to withstand the exposure.

Alyssums, Verbenas, Heliotropes, and many other similar softwooded plants must be propagated in pots, or at least under cover, and shaded from the sun. Verbenas ought to be propagated while there is young growth to be obtained, for if hard wood is put in the cuttings are a long time in rooting, and even then seldom produce healthy plants. I have found it the best plan for those with limited convenience to root these cuttings in pots as early as possible, and have them potted off in store pots with good soil before winter sets in, preserving them healthy by frequent fumigations, and syringing to keep them clean, and keeping them pinched-in as they grow in order to make stubby plants.

Of course the striking of Geraniums outdoors involves the taking of them up, potting or boxing them, and placing them in close quarters for the winter, and to those who object to that I may say that the cuttings will root just as well if put in pots at first and exposed in such a place as I have stated; then they can be easily shifted if bad weather comes on, and the potting of them can then be deferred till the spring, which in some cases may be advisable.

For more tender plants, such as Alternantheras, Lobelias, &c., it is best to put up a frame on a slight elevation, when a little heat can be afforded in the absence of sun; here the cuttings soon root and do well.

I consider all sorts of plants that are to be kept through the winter ought to be rooted early enough to have them established before winter. Thus treated they are always healthier, more vigorous, and much less difficult to preserve than when they are struck late. Some may say that it spoils the effect of the beds to take cuttings so early, but if they are taken from the plants in a proper way very little disfigurement will be seen, and by beginning early they can be taken at two or three different times.—T. RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

THE warm showers gave us an excellent opportunity to plant out the waiting green crops, and more rain after planting has

given them a good start. In northern districts it is now time to sow Cauliflower seed for the earliest crop next year. It is best to sow the seeds on ground that is not rich, and the plants should be pricked out in fine soil as soon as the first true leaves are formed. When the plants are well established plant them about six in a hand-light, two of them being regarded as super-numeraries, to be subsequently planted out in the open ground in March. The plants which are not required for the hand-lights may be put out under a wall facing south or west, or they may be planted in a cold frame for the winter. These plants closely succeed those that were planted in the hand-lights. At Loxford we do not sow until the last week in August or first week in September. It is best to make two sowings, one two weeks later than the other; if the seeds are sown too early the plants are apt to button.

Prickly-seeded Spinach is sown about the same time for the winter supply. The ground ought to be deeply worked and well manured for this crop. It is as well to make two sowings of this, and the one should not be on such rich ground as the other. When the winter is very severe crops suffer the most on rich soil. Cabbage seed must be sown at this time; but some sorts have a tendency to run if the seeds are sown before the last week in this month. Last year we sowed Early York, Enfield Market, and Hill's Incomparable together, the result being that every plant of Hill's ran to flower, and not one of the others. If Hill's had been sown two weeks later in all probability this running would not have occurred. This is the most useful sowing of Cabbages and ought not to be neglected. The ground should be well worked and richly manured. The plants stand the winter best if they are pricked out into beds the same as has been recommended for Cauliflowers.

In light soils it is sometimes difficult to obtain a crop of Onions if the seed is sown in the spring. The maggot attacks them as soon as the hot weather sets in, and at that time the young plants are very easily injured. In a case of this kind it is very desirable to sow now, then the plants become established before the winter. We generally sow in rows about a foot apart. Early in February, if the weather is mild, the plants are thinned out to from 4 to 6 inches apart; the thinnings ought to be planted out the same distance apart as the others which were thinned. It is a very good time now to sow Turnip seed for the winter supply of bulbs. Small roots are most esteemed in the kitchen. We like a moderately rich piece of ground for this crop, and the seeds ought to be sown thinly; if the seeds are good it is not possible to sow too thinly. Some may say it is easy to thin out the plants when they are too thick in the rows; so it is if time permits, but young Turnip plants are easily injured when they are crowded together. We have had an excellent opportunity of harvesting some choice seeds; when the weather was fine they could be dried in the open air in a sunny position. With sufficient moisture there is another crop of weeds on the fresh-dug ground, but the Dutch hoe run through the soil amongst the rows of plants quickly disposes of them.

### PINES.

We have been re-arranging the Pines. The plants from which all the fruit has been cut have been thrown away and the suckers potted. The plants that have been arranged in the fruiting house are very stocky—many of them had thrown-up suckers. These were all removed, as no suckers are allowed to grow from the plants until they start into growth after their season of rest. Some varieties are very shy in producing suckers; other sorts, as the Queen, will sometimes throw-up half a dozen at one time. These ought to be removed in an early stage with the exception of two, which ought to be left on for stock. We do not usually remove them from the plant until they are of a large size, and this will be in June or July. If strong suckers can be obtained early in June they may be potted and grown-on to fruit next season, and fruit of the largest size and best quality can be obtained from such plants. The suckers potted now will not be repotted until the spring of next year. We keep the house rather close for a few weeks when the suckers have just been potted; but other houses have air freely admitted both at the front and back. All plants that are making growth have plenty of room. Overcrowding and insufficient ventilation are the causes of long narrow-shaped leaves, which produce inferior fruit. In all our houses a good supply of atmospheric moisture is kept up from evaporation. We never syringe overhead in very hot weather. The surface of the bed is syringed or watered, as well as the paths and walls of the house.

Fruit that is ripening in late houses requires to be freely exposed to light and air, and if the ventilators are fully opened there will not be much danger of the fruit being scorched. The Smooth-leaved Cayenne is very liable to be injured if the direct rays of the sun play upon the house when it is insufficiently ventilated; but this happens more often in the spring than at any other season. It is well to keep a good look-out for insect pests. Scale and mealy bug will sometimes appear in a mysterious manner, and it must be destroyed before it gains a hold upon the plants. The best way is to sponge it off with strong soapy water.

## ORCHARD HOUSE.

The house has not been forced so much as usual, but we gathered a good dish of Early York Peaches on the 2nd of August, and Rivers's Early York came in a week later. Early Grosse Mignonne, a very fine variety, is a little later, but it is far superior to either Early York or Rivers's variety. Following Early Grosse Mignonne closely is the Royal George, one of the most certain bearers and an excellent Peach. Grosse Mignonne and Bellegarde are rather later, and there are no better mid-season sorts. We have this season discarded Hunt's Tawny Nectarine, and shall now trust to Rivers's Lord Napier for the earliest. This sort, with the Pine Apple and Victoria Nectarines, will be grown for generations yet to come. If Mr. Rivers had not given us any other Nectarines, these three would have handed his name down to posterity.

The ventilators are now kept open night and day, and the trees are watered only when they require it. Too much water or too little is almost equally injurious to the fruits, and a little experience is necessary to arrive at the right medium. The same person ought to attend to the watering and care of the trees all through the season, as the surface-dressings applied to them are very apt to deceive; that part may be wet while the under part is dusty dry.

When the greater portion of the fruit has been gathered it is time to repot the trees. One half of the trees will be potted this year, the other half to be top-dressed later. Those trees that are repotted this year were top-dressed only last year. It does the trees no harm to disentangle the roots to a very considerable extent, the main object being to give the trees a supply of new food, and this may be accomplished by reducing the ball of roots. If  $1\frac{1}{2}$  inch of the fresh potting material can be rammed down the sides quite firmly it will be sufficient. This reduction of the ball is only necessary when the trees have been shifted into pots of the maximum size. In either case it is always best to disentangle the roots a little with a pointed stick or rod of iron. Good turfy loam rather of a clayey character is the best staple, and to it should be added a fourth part of decayed manure. We added chalk to our light loam, but did not notice any improvement therefrom.

## GREENHOUSE AND CONSERVATORY.

We make a good display with Phloxes at this season, and they form a very distinct feature. People tire of the monotony of scarlet Geraniums. In many places the largest proportion of the flower garden and flower borders are planted with them, and the houses are ablaze inside. They are certainly very useful plants, and are well adapted for decorative purposes. They are easily grown and propagated, and for this very reason everybody grows them. They are not more easily grown, however, than Phloxes. Our plants were propagated in the spring from cuttings put into a hotbed in March, and each plant has one strong spike. They are grown through the season in 5-inch pots. After flowering the plants are cut-down and turned out of doors, to be planted in an open border or beds, where they flower magnificently; the same system of management is repeated next season, and after the second blooming the old plants are destroyed.

A press of other work has prevented us from quite finishing our potting, but it all ought to be done this month, especially the larger hard-wooded plants. Smaller plants may be potted later, if it is necessary to make a choice as to which ought to be left.

The stage Pelargoniums have been cut down. The old plants have been left out of doors for the present. Before cutting them they are allowed to become quite dry at the roots, and no water is given until the wounds are healed. They bleed very much from the cut parts if these precautions are not taken. The cuttings are put-in at once, and they root best if the pots are placed on the stage of the greenhouse near the glass. The cutting-pots ought not to be watered for twenty-four hours after the cuttings are put in.

We are tying and training Chrysanthemums into a suitable shape. The shoots have a great tendency to become straggling if allowed their own way, and it is quite necessary to train the growths into position before the shoots become too hard. The plants require plenty of syringing and watering in this hot weather. Whenever aphid appears the points of the shoots are dusted with tobacco powder.

Lapageria rosea and alba eclipse in beauty all other greenhouse plants at present in flower. If the plants have been well syringed up to this time they will be clean and healthy, and it is as well to omit syringing them when they are in flower, but a moist atmosphere must be kept up in the house. Now is a good time to layer the shoots for the production of young stock. Moderately strong well-ripened young wood is the best to layer. If the work is done this month healthy well-rooted plants will be produced by this time next year. Good sandy peat is the best material to layer in.

Liliums make a good show, but the hot weather causes the flowers to fade rapidly. All decaying flowers and leaves must be removed at once, and a re-arrangement of the plants ought to be made weekly.—J. DOUGLAS.

## TRADE CATALOGUES RECEIVED.

Wm. Cutbush & Sons, The Nurseries, Highgate.—*General Bulb Catalogue.*

J. Linden, Rue de Chaume, Ghent, Belgium.—*Catalogue of Camellias, Azaleas, &c.*

Wm. Paul & Sons, The Nurseries, Waltham Cross.—*General Bulb Catalogue, with Lists of Camellias, Azaleas, &c.*

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LEDBURY. August 17th. Mr. J. B. Masfield, Hon. Sec.  
NORTON, NEAR STOCKTON-ON-TEES. August 18th. Mr. C. Turner, Sec.  
MIRFIELD. August 19th. Mr. G. Senior and Mr. J. Rushforth, Hon. Secs.  
CALNE (Wilts). August 22nd. Mr. H. Blackford, Sec.  
NEWBURY. August 22nd. Mr. H. Seymour, Hon. Sec.  
BAWTRY. August 22nd. Mr. J. W. Fritchley, Hon. Sec.  
DORSET COUNTY. August 23rd (at Dorchester). Mr. A. Pope and Mr. C. Parsons, Secs.

CHEPSTOW. August 23rd. Mr. B. Thorn, Hon. Sec.  
CARSHALTON, WALLINGTON, and BEDDINGTON. August 24th. Mr. J. Baines, Leicester House, Carshalton, and Mr. W. Clark, the Nurseries, Wallington, Hon. Secs.

LARGS AND FAIRLIE. August 25th. Mr. D. G. Glen, Hon. Sec.  
SANDY. August 25th. Mr. E. T. Smith, Hon. Sec.  
SEATON BURN. August 26th. Mr. R. Richardson and Mr. W. Elliott, Secs.  
DOVER. August 29th. Messrs. E. W. Fry and C. T. Whiteley, Hon. Secs.  
CHIPPENHAM. (Cottagers' Garden Improvement Society). August 29th. Mr. Alfred Wright, Sec.

ISLE OF THANET (MARGATE). August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.

SHIRLEY, MILLBROOK, and FREEMANTLE. August 30th. Mr. Jennings and Mr. Squibb, Hon. Secs.

POCKLINGTON. August 31st. Sec., Mr. J. E. Ross.

YARMOUTH. August 31st. Mr. S. Aldred, Hon. Sec.

THORNTON HEATH. September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.

MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.

STAMFORD. September 7th. Entries close September 2nd. Address the Hon. Secs., Stamford.

DUNDEE (International). September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.

GLASGOW. September 12th and 13th. Mr. F. Gibb, Doughall, 167, Canning Street, Sec.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY. September 13th.

KILMARNOCK. September 14th. Mr. M. Smith, 11, King Street, Sec.

IPSWICH. September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*King Heath*).—The "Greenhouse" does not contain the names of all plants grown in it. The "Cottage Gardeners' Dictionary" would suit you.

COVERS FOR OUR VOLS. (*H. W.*).—Cloth covers may be had from our office.

AUTICULAS (*H. C. D.*).—We are not permitted to give the address of those who do not sign their names. We can forward letters enclosed to us for the purpose, and prepaid.

GLADIOLUS LEAVES' TOPS BROWN (*F. A.*).—Deficiency of moisture at the roots is the probable cause. The scrap of plant is of a Begonia.

PANSY SEEDLING (*J. Hobbs*).—Though small we think it worth naming and sending out, for it is the blackest flower we ever saw.

VINE LEAVES DECAYING (*T. E. D.*).—We believe that deficient moisture at the roots is the cause. Water abundantly thrice a-week during dry hot weather. "Watering occasionally" is more injurious than beneficial.

CUCUMBERS BITTER (*A. Boyle*).—As yours and all your neighbours' are similarly bitter, we can only surmise that none of them have had a sufficient supply of water during this intensely hot and dry weather.

ALL-FLOWER (*E. T. M. W.*).—We do not know a plant by that name. We know All-good, All-heal, All-seed. Was not *W* omitted?

PRICKLY COMFREY (*H. W.*).—It is a perennial, known to botanists as *Symphytum asperum*. It may be raised from seed by sowing it in the spring in drills to remain, or the seedlings to be planted out. It grows 5 feet high. It may be further propagated by dividing the roots in autumn. Each piece will grow, and they should be planted about 3 feet apart. They are quite hardy, and need no culture but weeding.

GARDEN NEAR CHESTER.—In answer to Mr. Shortt: In a simple matter of taste I thought that anyone might express an opinion, and as the matter in question seemed to me to be contrary to good taste I said so, without the least idea that I was reflecting on any one; for surely *de gustibus non disputandum*.

*tandum*, and there is nothing upon which people differ so much, and on which, therefore, difference is allowable.—D., *Deal*.

**HORLEY'S GREENHOUSE (J. McN.).**—We cannot state the particulars you need. It may be advertised again.

**ORNAMENTAL GRASSES AND EVERLASTINGS (Anxious Gardener).**—*Acroclonium roseum* and var. *album*, *Ammobium alatum*, a small white Everlasting; it and the two preceding being half-hardy annuals. *Helichrysum bracteatum* and var. *alba*, *H. monstrosum* *album* *flore-pleno*, and the following double varieties of *H. monstrosum* *flore-pleno*—*atro-coccineum*, *luteum*, *purpureum*, and *roseum*; *Rhodanthe maculata*, its white variety (*alba*), and *atro-sanguinea*, *R. Mangiesi*. The *Rhodanthes* are half-hardy annuals. For quantity, the best plan is to procure a "collection of double *Helichrysms* in ten varieties," they being the best, adding the *Acroclonium*, *Ammobium*, and *Rhodanthe* if you wish, but they are not nearly so profitable. Grasses are—*Agrostis nebulosa*, *A. argentea*; *Briza gracilis*, *B. maxima*; *Eragrostis elegans*, *Lasiagrostis argentea*, *Paspalum elegans*, *Piptatherum Thomasi*, and *Stipa elegantissima*.

**AIR OF VINERY (Le Grand).**—With a temperature of 92° by sun heat, whether the Grapes are colouring or ripe, we should have the air moist by watering the paths.

**MAIZE (E. Stone).**—You may continue watering as long as the stems remain green.

**GRAPES SERIVELLING (W. C.).**—Unless they are ripe we should water copiously.

**SIDES FOR ORCHARD HOUSE (Henry Wright).**—Boards will answer for the back of the orchard house, and if you were to fix them to the interior of the house—the inside of the posts—you would have a straight face, against which you could train the trees. We should not double-board the sides and back and fill with sawdust, as that would be almost, if not fully, as expensive as a 9-inch brick wall. A double-boarded back would be considerably warmer than a single one; but in seeking warmth and durability, masonry is preferable to woodwork. We have no recollection of the heating of a small house by a metal pipe fixed into another consuming charcoal.

**ALTERNANTHERAS FOR BEDDING (C. T. H.).**—*Amensae*, *magnifica*, and *amabilis* are the best.

**REDDISH-PURPLE LOBELIAS (Idem).**—The two you mention—namely, *Omen* and *Defiance*, are as good as any, to which may be added *Purple Prince*.

**ONION MAGGOT (J. L.).**—It is caused by the Onion fly (*Anthomyia ceparum*), the females of which deposit their eggs within the leaf-sheaths of the Onion close to the ground in May up to September. The eggs being hatched the grub appears which is so disastrous to the Onion crop. There is not, that we are aware, any remedy after the Onions are attacked, but a preventive is had by watering the ground with diluted ammoniacal liquor from the gas-works, one pint being allowed to six gallons of water, and applied to the ground the day before sowing the seed, giving what would be considered a fair watering—six gallons will be sufficient for 30 square yards. Gas lime applied at the time of sowing at the rate of twenty bushels per acre, or sprinkled between the rows at the rate mentioned the early part of May, or if the season be forward the end of April. The fumes given off are offensive to the fly, preventing the eggs being deposited. Hot water, we fear, to destroy grubs inside an Onion must be so high in temperature as to destroy bulbs which are not attacked as well as those which are.

**PLANTING VINES (A Novice).**—We prefer to have part inside and part outside borders for Vines, in all cases planting inside, having the inside border the full width of the house, and the outside at least half, or better two-thirds, the width of the house; 15 feet will answer for the width of a lean-to house, but we should prefer to have it 18 to 20 feet. The Vines should be planted 4 feet 6 inches apart, though for Hamburgs and the non-Muscat or late Grapes, 4 feet will answer. The border should consist of the top 8 inches of a pasture taken off with its turf where the soil is a good hazel loam, light rather than heavy, and cut up rather roughly—of that ten parts, one part mortar rubbish from an old building, one part charcoal, one part sand and one part freestone, in lumps from a walnut up to a cricket ball, and one part half-inch bones, the whole to be thoroughly incorporated and put together in a dry state, allowing one-third the depth for setting. The kinds most suitable are—*Early*: \*Black Hamburg, \*Foster's White Seedling, Mill Hill Hamburg, and Buckland Sweetwater, \*White Frontignan succeeding admirably. *Medium*: Black Prince, Muscat Trouveren, \*Frankenthal, Black Muscat (Muscat Hamburg), \*Madresfield Court, and \*Waltham Cross, \*Golden Queen being excellent. *Late*: \*Black Alicante, Burchardt's Prince, Mrs. Pines, \*Lady Downe's Seedling, Gros Guillaume (Barbarossa), \*Muscat of Alexandria, \*Calabrian Raisin, Trebiano, and \*White Tokay. As you may only wish for a few kinds, those marked with an asterisk are the most suitable. Our "Vine Manual," 2s. 7½d., and "Greenhouse Manual," 10d., in both cases free by post from our office, will aid you.

**REPORTING AZALEAS AND CAMELLIAS (Sam).**—Azaleas are best potted when the new growth is being made in spring, or so soon as the flowering is past. The present is a good time to repot Camellias, the buds being set. We should not repot the Azaleas until spring, but the Camellias we advise to be potted at once; but it is an evil to give them frequent pottings. Every second year is often enough to pot young plants, and every third or fourth year for old plants. The pots should be well drained, and an inch of space be allowed all round the old ball of soil. Any old soil coming away freely with a pointed stick from amongst the roots should be removed, but be careful not to break the roots. Sandy fibrous peat broken up moderately fine is a proper compost for Azaleas; and three parts fibrous light loam and a part sandy fibrous peat is a proper compost for Camellias.

**CULTURE AND PROPAGATION OF LANTANAS (A Subscriber).**—They are half-hardy shrubs, requiring to be kept dry in winter and safe from frost. In spring the shoots should be cut-in to within an inch of the old wood, and being moderately watered they will soon start into growth. When the shoots are an inch long turn them out of the pots, removing most of the old soil, and returning to the same or a smaller size of pot, one that will conveniently hold the roots. Keep rather close and shaded, sprinkling overhead twice daily until the potting is recovered from, then afford a light airy position near the glass. When the roots show around the sides of the pot, and before they become closely matted, shift into pots 2 inches larger in diameter, watering carefully for a time; and when the roots are working freely in the fresh soil water copiously, shifting into pots 2 inches larger, watering alternately with liquid manure when the pots are filled with roots. Regulate the shoots as they advance, securing to neat stakes. Fibrous loam with a fourth of leaf soil or well-decayed manure is a suitable compost. Cuttings of the young shoots taken off in spring or any time during summer strike freely in

a gentle bottom heat shaded from sun. The cuttings should have two joints and the growing point.

**ROSES MILDEWED (Idem).**—The Rose leaves are mildewed. Syringe them on the under side of the leaves, as well as the upper, with a solution of soft soap, 2 ozs. to the gallon of water. The cause of this and other parasites attacking plants is not known. Repeat the application if necessary, and give a good watering to the roots, mulching over the surface with short manure. We do not recognise the plant by the leaf and flower sent. It was too much crushed and imperfect for identification.

**NAMES OF FRUITS (S.).**—It is either Early Moorpark or Hemskerk; probably the former. It is difficult to name Apricots from a single specimen of the fruit alone. (Knutsford).—All the numbers were off and mixed.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### OUR BANK HOLIDAY.

"Do come and see my chickens, and tell me what I am to do with them, for my grass is all dried-up, and my runs look like miniature deserts." This invitation came to us in a letter from a friend, and so we determined to go down and advise, although we knew we had nothing fresh to recommend or to suggest. We little, however, thought of what we were doing when we by telegram accepted that invitation, for when we arrived at the London station where our train was to start from we realised for the first time that it was the vigil of the bank holiday. Never can we forget the scene of indescribable confusion. It seemed as if London had *en masse* determined to set forth, like a mighty army, for Ramegate and Margate. Men and women by troops all laden with parcels of all imaginable sizes and shapes. Hampers, baskets, bundles, bird cages, fish baskets, champagne cases, ice, portmanteaus, bonnet boxes, and hundreds of other packages all seemed massed together in dire confusion. Women with babies were trying to pull some particular basket or package from a heap; youths and boys were in everyone's way, with fishing-rods and butterfly nets, as if they expected piscatorial excursions at Pegwell Bay or entomological walks over St. Lawrence's Fields. We stood by our hatbox, portmanteau, and a basket of birds which we were taking with us, and warded off passengers and their goods. We had a long time to wait, but wait we did patiently, wondering why parents would all take their babies, and others their parrots and dogs, for such a short visit on such a day. Just as we returned to our *impedimenta*, after a brief absence, we heard a crash, and a box of the size of a small house—containing we should think the family plate and linen and effects of a good large family—was plumped down on the top of our own well-beloved basket of birds. We rushed to the rescue, and dragged the remains from under the monster. The inmates were alive and apparently not damaged, but the basket—not a stick was whole in it, and it appeared as if it had been extracted from the maw of a boa constrictor. We determined never if possible to travel on such a day again, and if we had ever to break that resolution never to bring any of our live stock with us. In the north, where two or three shows would be going on, and where the people almost surpass the southerners in their craze for going out holiday-keeping, we could but feel compassion for those exhibitors who were sending about dogs or birds unattended. But at last we got off, and after sundry stops at all sorts of places where we never should have stopped, after innumerable jerks and jostles, after travelling in a carriage with seven people on a side where there should only have been four, we arrived at our friend's station, and at once betook ourselves to the yards whose runs were described as like "miniature deserts."

We certainly did find them in a bad way. They were scorched to the shade of the now-fashionable cream colour, and not even a dandelion leaf or a plantain stalk broke the colour of the surface. Well, we spent that Saturday evening in soaking the grass from one end to the other. There were three of us at it; one drew the water, another carried the pails, and the third poured it on the parched strands. We deluged it from one end to the other, and worked at it till dark. Then we went in and looked over a pack of schedules of forthcoming shows, marvelling at the stupidity of many committees and the terrible ignorance many of them showed by their prospectuses, and then we talked over the late disqualifications in Spanish and the peculiarities some judges are displaying who ought to know better, until bedtime. The next morning our evening's work amply repaid us; the runs looked so much fresher and brighter, and the birds were all at work digging, and rooting, and scratching, instead of standing listlessly idle as they had been before doing for day after day, and learning the abominable habit of feather-eating. We recommended lettuces to our friend, who was as yet young in the fancy, and threw in a bushel nearly of plants which had gone to seed; and the way the leaves, and stalks even, disappeared before us showed plainly that the birds had been pinning away for green food. On the Monday morning we set to work and limewashed all the houses inside, and scattered some ears of corn about the runs for the birds to pick out the grains, and we stuck large branches of spruce, firs, and holly about the runs

to make shade, and tried to put things generally on a better footing. When Monday evening came, and we had once more to go through the tortures of travelling home again with the Rams-gate and Margate pilgrims, our unpleasant journey and disagreeable reminiscences were almost forgotten when we thought that we had found on arrival a poultry-yard stocked with valuable birds in a very bad state, and had left them not only already better in appearance, but had given directions for their future welfare, so that their owner might have reason to remember that he had benefited by "our bank holiday."—W.

## HOW I BEGAN BY KEEPING FOWLS AND ENDED BY THE FOWLS KEEPING ME.

"No eggs again for breakfast?" said my father. He was a stern and angry man, my father, and his quasi interrogation as he surveyed the table made my mother jump.

My mother was a mild placid woman; and, as I said before, she jumped. My father repeated the remark; and this time my mother replied with a deprecatory "No."

"I'll keep no more fowls," said my father. "Eating their heads off with barley and all sorts of things, and never a spring chicken nor so much as an egg for breakfast when you want it. I'll have all their necks stretched to-day, and make an end of it!"

My father was a man of few words, and my mother did not care to dispute the point. His son (meaning myself) was a bit of a pet, and knew it.

"Give 'em to me, father."

"Go on with your bread and butter," said my mother. However, I knew how to coax, and in the end had my way.

My father agreed to allow me the bits of leavings from the scullery and half a bushel of corn once a-week during the next three months, and he was to buy my eggs and chickens of me at a fair market valuation; and after three months I was to keep them myself. On these terms I became the possessor of six hens—one Dorking, two with a cross of Game in them, and three common barndoor fowls, with a barndoor cock, and at once commenced operations.

Adjoining the back kitchen we had a good-sized yard, about 24 feet by 20, unpaved, with a bit of a shed in one corner, half of which was closed and filled with roosts as a hen house, and an old plane tree in another corner which in summer gave a pleasant shade. Here it was that I stood and surveyed my newly-acquired property with a pride such as Alexander never felt in his conquered worlds when he wept that there were no more to subdue.

I began by digging-up half-way along one side of the sunny wall of the yard a strip of earth about a yard wide, and out of my pocket money at a cost of about 2s., assisted by Tom the gardener's boy, fenced it in with wire to prevent the fowls from encroaching; and here I planted quite a hedge of sunflowers. My fence was quite a temporary affair, for as soon as the seeds should have sprung up and the plants grown to about a foot high it was my intention to remove it. By favour of the groom I got a barrowful of horse litter and dung, which I shot in the corner near the base of the plane tree; and for half-a-crown I purchased a large barrowload of good gravel, which I disposed in the middle of the yard. A row of orange boxes filled with clean straw in the fowl house, each with a chalk egg in it to tempt the sitters, made capital nests; and now I was prepared to commence the campaign.

The servants could not make the hens lay, and had been content to throw down so much corn every day and let the fowls shift for themselves. It was my turn to see what I could do, and, boy as I was, I had my own ideas on the subject.

In the morning before going to school I used to feed my flock with a handful of barley mixed with the scraps of bread and leavings from the breakfast table, not forgetting the broken egg shells, rind of bacon, and other unconsidered trifles, but which to me were invaluable, the whole well cut and crumbled up into a homogeneous mass, and so distributed. After one o'clock dinner I used to pay them another visit, this time with the remains of the potatoes and other vegetables (not such as the cook would have saved, but simply the leavings on the plates), which I used to rewarm in a saucepan over the fire with a little gravy or sour milk that might be standing in the milk-jug. At five o'clock another handful of barley, or, if any scraps were lying about (and there were generally some), a mess similar to that at mid-day. Occasionally this would be varied by the addition of a little bran; and in winter I used to sop bread or potatoes in warm beer which I saved from my dinner, and which I found my fowls devour with extraordinary avidity. After one of these feasts I was almost always rewarded with an extra lay of eggs.

I had almost forgotten to mention that a few lumps of rough chalk and a piece of bay salt thrown casually down in the yard were immensely appreciated by my feathered friends.

Every week I turned over my gravel heap and my manure heap, so as to afford fresh materials for my fowls to scratch in, and at long intervals renewed them with half a barrow or so of

fresh stuff. These precautions I regarded as indispensable to the welfare of the poultry.

In the winter they might be seen scratching and clucking over the warm manure heap, or in summer dusting themselves in the clean gravel, with all the luxuriousness of confirmed Sybarites.

Before long the results of my treatment began to show themselves in a regular supply of new-laid eggs, and when two of the hens wanted to sit I purchased new-laid eggs of the Polish, Spanish, and Dorking breeds to serve as the objects of their maternal experiences. I thus improved my stock with fowls reared from eggs of the finest breeds that could possibly be procured.

Whenever a fowl was seen to be ailing or moping I always caught it, and after administering a couple of peppercorns or some other simple remedy, kept it in a hamper by the kitchen fire, a treatment which almost invariably proved successful. Once a hen had some obstruction in her crop, which would not digest, and I actually opened the crop with a lancet, cleaned it out, and sewed it up again; the hen not only surviving the operation, but thriving well after. But the ailments of fowls opens out too wide a subject; for the present I want to confine myself to the prescribed limits of my narrative.

When a brood of chickens was expected to be hatched I was always in attendance, and a most skilful accoucheur I came to be—removing the chickens one by one from under the mother, and placing them in a warm flannel near the fire, with a little chopped hard-boiled egg and Embden grits, after giving each a peppercorn by way of commencement.

When all were hatched and the added eggs thrown away, the mother was put under a coop placed over a sack for warmth, and for the first few nights placed indoors, till the chicks began to feel their legs and run about.

After a few days Dame Partlet was allowed to take her family under her own charge, and seldom did I lose by the permission, as cats were far more wary when the hen was at large than when confined beneath a coop and her young ones far away from her protecting wings.

In each brood there was naturally a larger proportion of cock than hen birds; these after a certain age I used to weed out, preserving the pullets and putting-up the young cockerels to fatten for the table. My process of fattening was to confine the young birds in coops, and feed them upon oatmeal brashed in sour milk, and served-up scalding. A little salt contributes to the fattening process materially. If they showed any tendency to pine I would change their food, or even give them a few days' run of their legs, a course which used to put the fat again upon their bones, and leave them free to recommence the orthodox fattening process.

Now for the details. My first six months, I am free to confess, were conducted at a loss as nearly as I can remember, as follows:—

	£	s.	d.
Laying-out the ground—Fencing .....	0	2	0
Gravel .....	0	8	6
Manure .....	0	2	6
Barley, 26 weeks at 1s. per week .....	1	6	0
Extras .....	0	5	0
	£1	19	0

Any returns during that period I will write off as lost. During this time, however, my sunflowers had come to maturity and flowered. My readers may not be aware that the seeds of the sunflower are the finest stimulant for poultry in existence, and the avidity with which fowls will scratch round the roots of the sunflower's tall stalks and pick up the seeds which fall from their wide open flowers is something perfectly surprising to behold.

Now for my gains. In the next six months I had doubled the number of my laying hens, and substituted a fine Game cock for the old barndoor fowl which I already had.

During the same period I had averaged four eggs a-day, which I sold to my father at 1d. a-piece—and I had had four broods of fine chicks—say in all twenty-eight young birds—of which six were now laying, and the rest (twenty-two) had been fattened and sold as fine birds at Christmas for 3s. and 3s. 6d. a-piece (I did not charge my father full market prices "*bien entendu*," but this by the way):—

	£	s.	d.
132 days at 4d. per day .....	3	0	8
22 fowls at 3s. each .....	3	6	0
	£6	6	8
Deduct barley for 26 weeks .....	1	6	0
Extras .....	1	0	0
Cost of coops, &c. ....	1	0	0
Loss on previous six months .....	1	19	0
Total .....	£5	5	0
Nett gain .....	£1	1	8

In the next year I had more than doubled my number of



laying hens, all of good breeds, and without any outlay, and my returns were more than doubled. My expenses at the same time were less, and even with a decreasing tendency. I sent one or two birds of my rearing to a poultry show, and won not only a £10 prize, but sold my birds at fancy prices. My eggs and fowls I now began to send to the tradesmen round about after providing for the home demands, and especially during autumn and winter, realised high prices for my produce. I soon had a bit of money in the savings' bank, and when I was forced to go into the world and work for my living I could no longer devote my time to poultry breeding. I sold thirty-six fowls of various fine breeds at an average of £2 a-piece, taking the bad with the good, and retired with a very decent sum at my back, as the result of my innocent request at the breakfast table a few years before—"Give 'em to me, father."

A great many details of fowl management I have necessarily been compelled to skip over owing to the limits of my space, but on these, if I may be permitted and my readers would like to hear them, I can enlarge more fully at another time.—(Housekeeper.)

## POULTRY AND BIRD NEWS.

WE are sorry to hear that the celebrated establishment of French poultry belonging to the late Mr. W. Dring of Faversham is entirely broken up. We learn that Mrs. Dring has abandoned all intention of continuing to exhibit, and has sold all the Crêves to Mr. Burrell, and the Houdans and La Flèche to Mrs. Vallance. We hope sincerely that the mantle of our deceased friend will descend upon the new owners.

The Leghorn Club is certainly at work, and that too very vigorously. We find they have arranged for classes for both the varieties at Weymouth, Bath, Middleton, Oxford, Newcastle, Cirencester, Alexandra Palace, Swindon, Shrewsbury, Carmarthen, Aylesbury, and for other shows. We hear, too, they propose to publish a Standard of Excellence for the breed; and if so, we shall hope to have a copy sent to us, when we will report upon it.

Portsmouth seems to get deeper into disgrace, for no prizes seem to be paid, or are many of the letters answered. We hope exhibitors will all combine and enforce the payment of the prize money. We do not think they will hesitate to do so, for the statement of the Committee on the first page of the schedule as regards payment of prize money is very plain. Many, too, will remember the grand banquet which was going on while exhibitors were endeavouring fruitlessly to get the awards, and will feel if there was money forthcoming for that, so must it be found to pay the prize money.

We would urge once more exhibitors and breeders of the less-cultivated breeds to apply at once to Mr. J. King, 111, St. Aldate's, Oxford, the Hon. Secretary of the Poultry Show, as the Committee are desirous of making their schedule as pleasing as possible to all, and only want support and promise of help to put such breeds as Sultans, Minorcas, White Malays, Peruvian Ducks, Booted Bantams, and such like on the same level in prize money as Brahmas and Cochins. We cannot help remembering that Oxford has played a most important part in the present prosperity of Silkies, Leghorns, Black Cochins, &c., for in many cases they provided classes and cups for these breeds when they had previously had none before at most exhibitions—in fact Silkies made their *début* here with a class to themselves. Pigeons this year are, we learn, to be on the single-bird system, and the Committee are equally ready here to make new classes where promises of help are given.

The Ipswich and Eastern Counties Society's Show, to be held in September, is the Society's first exhibition. The Society is in no way connected with the Show held at Ipswich in December.

## CASTLE EDEN SHOW OF POULTRY, &c.

THE annual Show of the Castle Eden District Agricultural Society was held at Houghton-le-Spring on the 8th inst. Unfortunately the Show had not been sufficiently advertised to insure a good entry, and it would be well for the Council to see to this point for another season.

Among the few entries, however, we noticed some capital birds in Mr. Procter's winning *Cochins* and Mr. Carver's stud, the latter gentleman carrying off the points prize, and in the chicken class we found by far the best *Cochin* pullets we have seen this year—in fact, so good was one that we do not expect to see her surpassed at any show. These were in the open field, but the *Pigeons*, of which there was a good entry, were placed in a very neat tent. In Carriers, first was a good Black hen and second a Dun cock; a Black cock was very highly commended. In Pouters, Whites in splendid condition won; the remainder very good, but out of feather. Tumblers, though good, were not so well shown. First a Yellow Agate, and second a Kite very good in head properties. Jacobins a grand class of thirteen, and mostly Reds, and many in nice order. In Turbits, first was

Blue and second Yellow, two nice specimens. Fantails a pretty fair lot. Owls good indeed, the first and second White African and also the very highly commended. Some good English had to put up with poorer fare. The Variety class was an extra good one; first a Grey Frillback, second a Blondinette, and third Yellow Barb. Many others were noticed. Mr. Beckwith won the points prize.

**POULTRY**.—DORINGS.—1, T. P. Carver. COCHINS.—1 and 2, G. H. Procter. BRAHMAS.—1, T. P. Carver. 2, J. N. Lawson. HAMBURGS.—Golden-pencilled.—1 and 2, T. P. Carver. Golden-spangled.—1 and 2, T. P. Carver. Silver-spangled.—1, J. Hudson. 2, G. Alderson. GAME.—Black-breasted or other Reds.—1, W. Bearpark. 2, C. Taylor. Extra 2, W. Allan. BANTAMS.—Game.—1, T. Putnam. 2, J. T. Winter. Any other variety.—1 and 2, T. P. Carver. DUCKS.—Rouen.—1, T. P. Carver. 2, Miss J. Scott. ANY BREED.—Chickens.—1, G. H. Procter. 2, J. Hudson. 3, W. Bearpark. *vhc*, W. Henderson. GESE.—1, T. P. Carver. 2, H. Forrest. *vhc*, Miss M. Brown. TURKEYS.—1, T. P. Carver. ANY OTHER VARIETY.—1, T. P. Carver. 2, J. Hudson. SELLING CLASS.—1, J. Hudson. 2, W. Allan. Point prize.—T. P. Carver. **PIGEONS**.—CARRIER.—1, 2, and *vhc*, W. Beckwith. Pouter.—1 and 2, R. A. Nicholson. *vhc*, R. A. Nicholson, W. Beckwith. TUMBLER.—1, 2, and *vhc*, W. Beckwith. JACOBIN.—1, G. Alderson. 2, J. Young. TURBIT.—1, G. Alderson. 2 and *vhc*, W. Beckwith. FANTAIL.—1, R. F. Nicholson. 2, W. Beckwith. OWL.—1 and 2, G. Alderson. *vhc*, J. Young. ANY OTHER VARIETY.—1, 2, and 3, W. Beckwith. *vhc*, J. Young, W. G. Moody. **RABBITS**.—LOP-EARED.—1, W. Simpson. 2, W. Allan. ANY OTHER VARIETY.—1, Miss Sutherland. 2, R. Laverick.

JUDGE.—Mr. E. Hutton, Padsey.

## IDLE SHOW OF POULTRY, &c.

THE first Show of the Idle Agricultural Society was held on the 12th inst, and the weather being fine it proved a great success. The poultry, Pigeons, and Rabbits were shown in Turner's pens, arranged on three sides of the field. In poultry there were 107 entries, in Pigeons 223, and in Rabbits 27. The staff of assistants was far too small for the amount of work, and the consequence was that the Secretary himself had to put up the cards, and this was not done till a late hour.

In poultry *Spanish* were first on the list, and these were a nice lot, and the awards well made. *Game* (old) were very good, the cup and first going to Piles, the cock most perfect; second being Black Reds, very good; but we were sorry to see Mr. Cock's splendid Brown Reds had to put up with a high commendation. *Cochins* and *Brahmas* very good, the latter especially. *Hamburghs* were in grand order throughout, and well placed. *Game Bantams* good, and in the Variety class Whites were first and Blacks second. The cup for the best pen of poultry was given to Mr. Beldon's Silver Polish. Young poultry turned up well in all classes, the *Game* and *Hamburghs* being particularly good.

In *Pigeons* there were two point cups, and most of the great guns were in competition for them. In the first section—viz., that of standard birds, the contest was keen between Messrs. Fulton and Baker, the latter winning by about seven points; and in the second section it was said to be a set between Mr. Entwistle and Mr. Ellis, Antwerps being the leading feature with these two gentlemen. Carrier cocks had nine entries, and all noticed. A grand young Black first; not as heavy as Mr. Baker's well-known Black, which was second, but more to our liking in style of wattle and carriage; both extraordinary birds. Hens both Duns, of grand properties in both head and beak; the rest all noticed, as also the whole of the Pouters in both classes. Pouters, cocks.—First a White, in splendid show; second a Red, not in the best feather; very highly commended a grand Blue. Hens.—First a Blue hen, grand in style and shape; a little gay. Second White, a splendid bird, but a little thick in girth. Tumblers (Almonds).—First a well-broken cock; second a hen, which lost in little considering the sex; the rest all good. Tumblers.—First a Yellow Wholefeather; second a Kite, capital in head properties. Barbs.—First a well-known hen, and second a cock; all Blacks, and a very good class. Dragons, Blue or Silver, a poor class, but winners very good; first Silver and second Blue. Owls (Foreign) the best class in the Show, and an extra second awarded; first and second White, and extra second a Blue hen. English Owls also a fair lot; first Blue and second Silver. Turbits.—First and second Silvers; the hen first. In Jacobins we scarcely think a better lot could be got together. The winners were Reds. Fantails not a good entry, and Balds and Beards (Long-faces), and other Long-faces as well, but there were some good birds in the list. Antwerps, Short-faces.—Mr. Entwistle fairly cleared the ground, the rest, though good, being nowhere with them in both classes. Long-faced cocks.—First a well-known Red Chequer, a splendid bird; and second a Dun, dull in colour, but otherwise a good bird. Long-faced hens.—First Blue Chequer, good in all points but marking; second a Dun. Medium-faced cocks.—First and second Silver Duns; and in hens—first Silver and second Red Chequer. In young birds of the Short-faced variety first and second were very correct, and some good ones were also noticed, but many were mediums. Any other variety of this year produced an extraordinary class, mostly of Long-faced birds, the prizes falling to the lot of Red Chequers which will some day make a stir in the Antwerp classes. The Variety class contained many very good birds, first going to a Black Trumpeter and second to a Nun, both nearly perfect.

In Rabbits there were but four classes and no extra prizes;

but we hope to see a better provision for another year. Lops were a very good class; a handsome Black-and-white doe, 224 by 4½ was placed first; the second a Fawn-and-white doe, 22 by 4½, good in style, bad eye, and not well marked. This reverses the Alford award, which we contend was quite wrong. Some were almost eaten-up with fleas; but worst of all was Messrs. Schofield and Barrett's splendid Black doe, which was first at Alford, and was ill then, but in this case was in so offensive a state as to be totally unfit to handle, the virulent matter springing out of the ear on attempting to measure it. Himalayans only three; first very good old, and second a promising young one. Silver-Greys were a capital class; but all were not placed at the same advantage, the light being shaded in some, and the full sunlight upon the others. The first was one of the nearest perfect-coated we ever saw, but too dark on the nose, and slightly so on the forehead, but this must be a winner; second a doe, beautifully even, but rather too light and out of shape, but better than at Bramley; pen 427 (Golithly) seemed to skulk, and did not look well, but was very highly commended; 429 (Ball) a splendid Rabbit, but also dark on the nose. In the Variety class first was a Silver-Cream, and second a Belgian Hare; the first a grand one.

**POULTRY.**—**SPANISH.**—*Black.*—Young or Old.—1, J. Powell. 2, H. Beldon. *Game.*—Cup and 1, H. C. & W. J. Mason. *Cochin-China.*—1, W. Mitchell. 2, C. Sidgwick. *Brahmas.*—*Old or Young.*—1 and 2, W. Schofield. *HAMBURGS.*—*Golden-pencilled.*—1, H. Beldon. 2, H. Pickles. *Silver-pencilled.*—1, H. Pickles. 2, H. Beldon. *Golden-spangled.*—1, H. Beldon. 2, H. Pickles. *Silver-spangled.*—1 and 2, H. Beldon. *Black.*—1, H. Beldon. 2, C. Sidgwick. *BANTAMS.*—*Game.*—1 and 2, W. F. Entwistle. *Any other variety.*—1 and 2, C. & J. Hingworth. *ANY OTHER VARIETY.*—Cup, 1, and H. Beldon. *SELLING CLASS.*—1, H. Beadland. 2, J. Powell.

**YOUNG POULTRY.**—*Game.*—*Cockerel.*—1, Amberley & Hartley. 2, E. Lund. *Hen.*—1, T. Pyson. *Cochin-China.*—1 and 2, C. Sidgwick. *HAMBURGS.*—*Silver-pencilled.*—1, H. Pickles. 2, H. Smith. *Golden-pencilled.*—1, H. Pickles. 2, Fawcett & Anderton. *Silver-spangled.*—1, H. Pickles. 2, H. Beldon. *Golden-spangled.*—1, J. Preston. 2, H. Beldon. *Black.*—1, H. Pickles. 2, C. Sidgwick.

**PIGEONS.**—**CARRIERS.**—*Cock.*—1, R. Fulton. 2, J. Baker. *vhc.* R. Fulton. *W. Harvey.* *Hen.*—1, R. Fulton. 2, J. Baker. *vhc.* R. Fulton. *W. Harvey.* *CARRIERS.*—*Cock.*—1, R. Fulton. 2, J. Baker. *vhc.* W. Harvey. *Hen.*—1, W. Harvey. 2, R. Fulton. *vhc.* J. Baker. *W. Harvey.* *TUMBLERS.*—*Almond Short-faced.*—*Cock or Hen.*—1, J. Baker. 2, W. Harvey. *vhc.* R. Fulton. *W. Harvey.* *Any other variety Short-faced.*—1, R. Fulton. 2, J. Baker. *vhc.* R. Fulton. *J. Baker (2).* *W. Harvey.* *BARBS.*—*Cock or Hen.*—1, W. Harvey. 2, R. Fulton. *vhc.* J. Baker. *J. S. Collin.* *DRAGONS.*—*Blue or Silver.*—*Cock or Hen.*—1, R. Woods. 2, R. Fulton. *Any other colour.*—1 and 2, R. Woods. *vhc.* Miss F. Seaton. *OWLS.*—*Foreign.*—1 and 2, R. Fulton. *Extra 2 and vhc.* J. Baker. *English.*—1 and 2, J. Thresh. 2, R. Fulton. *TURKISH.*—*Cock or Hen.*—1 and 2, J. Baker. *JACOBINS.*—1, R. Fulton. 2, J. Baker. *vhc.* R. Fulton. *J. Baker.* *FANTAILS.*—1 and 2, J. Baker. *TUMBLERS.*—*Bald or Beard, Long-faced.*—1, Miss F. Seaton. 2, W. Ellis. *Any other variety Long-faced.*—1, W. Ellis. 2, R. Fulton. *ANTWERPS.*—*Short-faced.*—*Cock.*—1 and 2, W. F. Entwistle. *Hen.*—1 and 2, W. F. Entwistle. *Long-faced.*—*Cock.*—1, W. Ellis. 2, S. Wade. *vhc.* W. Ellis. *J. Lister.* *Hen.*—1, J. Lister. 2, Miss F. Seaton. *Medium-faced.*—*Cock.*—1, W. Ellis. 2, W. F. Entwistle. *Hen.*—1, W. F. Entwistle. 2, J. S. Collier. *Any variety.*—*Young.*—1, J. Lister. 2, W. Ellis. *vhc.* J. Lister. *W. Ellis (2).* *LICKEST BIRD FOR FLYING PURPOSES.*—1, W. Reynald. 2, R. Fulton. *ANY OTHER VARIETY.*—1, J. Baker. 2, Miss F. Seaton. *vhc.* R. Fulton (2). *J. W. Holloway.* *W. Harvey.* *SELLING CLASS.*—*Single Bird.*—*Price not to exceed £1.*—1, R. Fulton. 2, Miss F. Seaton. *vhc.* W. Raichiff. *Pairs.*—*Price not to exceed £3.*—1, Miss F. Seaton. 2, W. Ellis.

**RABBITS.**—*LOP-EARED.*—*Buck or Doe.*—1, E. Pepper. 2, Schofield & Barrett. *HIMALAYAN.*—*Lopecared.*—*Buck or Doe.*—1, Wharton & Walker. 2, S. Ball. *SILVER-GREY.*—*Buck or Doe.*—1, Schofield & Barrett. 2, J. Firth. *vhc.* T. Golithly (2). *H. Wood.* *S. Ball.* *ANY OTHER VARIETY.*—*Buck or Doe.*—1, H. E. Gilbert. 2, I. Halsey. *vhc.* J. Stansfield.

**JUDGES.**—*Poultry:* Mr. Cannan, Bradford. *Pigeons and Rabbits:* Mr. Hutton, Padsey.

## A FRIENDLY GANDER.

I HAVE seen and heard of people making pets of all sorts of living creatures besides Cowper's hares and the rats of a prison, all of which have in return exhibited more or less intelligence; but never till the other day did I think there was any sense in a Goose, or rather gander.

I was visiting at Mr. M——'s, in a small village, who has among other stock on his farm a flock of Geese. One of these, for some reason best known to itself, prefers to lead a solitary life, rarely joining its companions, but has formed a strong attachment to my friend Mr. M——, following him about when going over the land, and waiting outside when he calls at any house in the village. The gander leads the way generally, looking round to see if he is going right, and that my friend and his two fox terriers are following.—S.

## ARTIFICIAL HONEY SUPERS.

I TAKE up my pen to call in question the value of a proceeding recommended by Mr. Pettigrew in a recent number. For the production of the finest super honey he recommends your readers to drive their bees, and then cut out the best part of comb a brood skep can be expected to yield, and so fill the handy little American supers, which are to be placed on certain hives; and these, fed with the contents of the discoloured or bred-in combs of the broken-up hives for the completion of the supers, and under the gloss of fresh cell-covers retouched, are to be palmed off on an unsuspecting public as super honey. But I much question if such a procedure is either seemly, or, were the manufacturing process generally known, would the supers be very saleable. I am a little doubtful whether our little favourites

would readily be made parties to the transaction, judging from the rapidity with which the contents of severed combs of their own tops left on for attachment disappear into the stock hive.

Be this as it may, the principle of feeding to obtain or complete supers is most reprehensible, whether the article employed be sugar syrup pure and simple or the run contents of stock hives, which of necessity contain the surplus stored-up sugar-syrup of bypast springs and autumns with all the many honeys mixed, the varied pollens and juice of the squeezed grubs adding piquancy to the flavour, and possibly perfumed in addition with the decaying foul-brood fungi, or yet as a last resort the brisk effervescing contents of the cheap foreign honey cask. To escape such nauseous mixtures sold as run honey, &c., frequently thickened with the coarsest brown sugar, the wealthier classes—at least with us in the north—cheerfully pay about double the price for the finest super honey, believing that in so doing they obtain as they ought the pure exudation of the current season's flowers, untouched by human hands, and stored in a separate compartment of the hive distinct from all breeding contamination; and nothing will go more to hurt honey exhibitions and the sale of such supers than the belief getting abroad that they are got up artificially—mere shoddy after all. —A RENFREWSHIRE BEE-KEEPER.

## HOW TO FILL THE APIARY.

THE time has now arrived when cottagers begin to suffocate bees in brimstone pits with a view to take their honey. Many persons know no other way of obtaining the honey, and they stubbornly follow the customs and practices of defunct generations. A clergyman living in the neighbourhood of Salisbury informs me that he has offered his bee-keeping parishioners to restore them the honey and hive, and 1s. per swarm besides, if they will let him take the bees and keep them alive instead of their consigning them to the brimstone pit. They have a dogged resolve not to have their antique ways improved, and therefore he does not expect his offer will be universally received. This gentleman has only to show them a better and more profitable mode of managing bees to induce them to abandon their antique ways. Some years ago I could buy swarms in this locality in August and September for 2s. 6d. each if I drove them; now the bee-keepers here will not sell, neither will they destroy their bees. I would readily buy now at 2s. 6d. per swarm, or say 1s. per lb. of bees. A good swarm in September weighs above 4 lbs. In being driven a good swarm will take more than 1 lb. of honey with it; hence it would be no gain to cottagers to get 1s. each for driven swarms. Those who wish to fill their apiary with good stocks, and those who wish to teach by example, will do well to purchase the condemned bees of the cottagers near them, say at 1s. per lb. of bees, for apart from example they are worth that price.

In creating a stock of hives, or in filling an apiary with condemned bees, about 5 lbs. of them with a young queen should be put into a 16-inch hive and fed vigorously for fourteen days or thereabouts. From 15 to 20 lbs. of sugar boiled in eighteen or twenty pints of pure water is enough for such a swarm and hive. By the time the syrup is all given the hive will be nearly filled with combs, and these combs will be fairly filled with brood. Stocks thus created are unsurpassed for excellence. The combs are young and clean, without a cell of foul brood and without a superabundance of bee-bread. The population is numerous and healthy, with an ample supply of wholesome food. In weighing a stock thus made it will be found that the weight of the water has been lost in the building of the combs and the keeping of the bees during the process—that is to say, 30 lbs. of syrup will enable the bees to fill their hive with combs and store up about 15 lbs. of food for the winter and spring months. Of course if larger swarms and hives are used more sugar-syrup will be required. Sugar-made stocks are highly valued, and I earnestly hope that many readers will fill their apiaries with bees that would otherwise be doomed to the brimstone hole. Condemned bees are well worth 1s. per lb. to strengthen their stocks by being united to them.—A. PETTIGREW.

## HONEY RECIPES.—No. 1.

THE British Bee-keeper's Association last year offered prizes for liqueurs and sweetmeats made from honey. The competition was not great, but we had some score or so bottles of honey wine, more than half of which—sent by Mr. J. S. Wood from Denmark—being unaccompanied by the recipes, were not for competition; had they been, the prize-winner must have trembled for his laurels, for some of them were prime. I have reason to know it, for Mr. Wood kindly presented me with his exhibits. The recipe given for the liqueur to which the prize was awarded is as follows:—

*Recipe for Sack Mead.*—To each gallon of water add 6 lbs. of honey and also the white of an egg and the shell broken up. Boil this mixture until the scum has all been cleared off, then add 1 oz. of hops to the gallon, and boil slowly for one hour. Strain

away the hops, and when new-milkwarm add a small quantity of yeast on a toast; let it stand a couple of days, and then put it into a barrel, which should only have been used previously, if at all, for white wine. Skim off any yeast which rises before being put into the barrel. Let the mead stand two years before bottling, and then when bottled it will keep for any length of time, and the colour will deepen with age.

For making wine or liqueurs honey is much more used on the continent of Europe than in Great Britain. Mr. Wood tells me that at the honey show at Copenhagen there were exhibited some thousands of bottles.—JOHN HUNTER.

### OUR LETTER BOX.

**CAUSE OF CROOKED BREASTS (W. C. C.).**—You have propounded a difficult question. It is certain that some breeds are never crooked-breasted, and that others always are. Some fowls like yours roost on the ground, and their breasts are in the shape of the letter S, others will roost on a walking-stick and their breasts will remain as straight as a line. We believe the defect to be hereditary. We once tried an experiment by shutting-up two crooked-breasted hens and keeping their produce separate. We deprived them of perches, and allowed them always to roost on the floor of the house which we kept scrupulously clean and dry, but they had crooked breasts. To the present day we have not a chicken of this year that has seen the inside of a poultry house, nor will they till long nights and colder weather make it advisable. They have no crooked breasts. We believe they may be attributed to two causes—weakness of constitution, and undue growth due to bad and stimulating feeding. The weights you quote are far beyond the ordinary weights of chickens of the age you name, and can be attained only by such care as you describe. But in birds as in human beings, there is such a thing as undue growth consequent on overfeeding. We imagine this is your case. Handle your birds through at once, keep for your stock only the straight-breasted. Let their house be without perch, and feed on moderate food—ground oats slaked with milk, maize at times, some large sods of grass cut with plenty of fresh earth, and household scraps, which you should diminish daily till they do without them. Keep the crooked-breasted for layers, or kill them for table purposes. You should have told us the food you employ.

**PIGEON WITH INFLAMED LUNGS (E. B. T.).**—We have during the last thirty-five years or so had birds occasionally so afflicted, but never one who was cured, nor do we believe there is any cure. Surgical remedies there are for surgical cases. The diseases outside a Pigeon, such as wing disease, bad eyes, &c., we have cured, but we disbelieve in any cure of what is inside the bird. A medical friend of ours once experimented with calomel and purgatives on a pugnacious cock Pigeon, and do what he would the bird was as full of fight and strength as ever. After a dose overnight which would have compelled a man to keep his bed, the bird was as lively and pugnacious the next morning as ever. A warm loft without draught, good food, water daily changed, strict cleanliness, and few birds, with no odd cock, and Pigeons are healthy enough unless hereditarily diseased. Thus we have lost this spring two stranger birds, one of canker, the other of "going light," and we have no doubt they would have propagated diseased birds, hence they are best gone. Be careful as to strains you buy. You speak of "books not giving good information on Pigeon diseases." Their authors are right, for we do not think there are any cures. Perhaps the homeopaths will take up the Pigeon and try their skill. Mr. Fulton's new book has a chapter on the diseases of Pigeons, and his experience has been very great, but his remedies we have as yet had no opportunity of testing, so of them we cannot speak.

**FOOD FOR BULLFINCHES—MUTILATION OF FEATHERS (A. B. G.).**—Those who keep Bullfinches in London have not the facility of obtaining berries and buds of various kinds as food equal to those in rural districts, and as your request is for the "best green food for Bullfinches in London," we advise you to give your birds occasionally watercress, grass seeds, small salad, and a bit of apple, in addition to the steeped rape seed and hemp. Furnish the latter sparingly, as it is so heating, and affects Bullfinches more than other kinds of cage birds. Many instances are known of blindness or change in colour of plumage and a general wasting away occurring through a free use of hemp. Exceptions still may be found to the contrary, and much depends upon the birds' constitutions and varied and confined temperature. We certainly think birds must possess extraordinary appetites when, as you ask the question, "they begin to eat each other's feathers." Apparently they may appear to be so doing. If a new quill feather should be ruthlessly drawn from a wing or tail, Bullfinches and other small cage-birds will extract from the stump a moisture which one might imagine was a savoury treat to them, to judge from the pains they bestow to "chavell" up the quill end. It is a very common occurrence for birds to pluck and destroy each other's feathers in confinement, and the habit once acquired can only be effectually prevented by separating the birds. Many old birds (Canaries for instance) will begin to mutilate their young as soon almost as they leave their nests, when the budding tail quills are fully charged with moisture. Birds also acquire this destructive habit to each other when the plumage is out of order or any of the feathers are disarranged, especially during the moulting sickness. We have ourselves had an instance of feather-mutilation within the past few days, that of a Mule (a pied one not to be despised either) having its flight feathers curled (with the constant pulling at them with the beak of another Mule) as effectually as though done with a hair-dresser's curling iron. Our remedy to straighten such feathers is to dip them in hot water for half a minute and draw them betwixt the thumb and finger, afterwards to let the birds have the benefit of a "fly" cage where they can freely bathe. Birds when limited to space are more apt to disfigure each other's feathers.

**UNITING SWARMS (T. Watts).**—It is not necessary to catch the old queen when uniting swarms unless for some reason you should wish to preserve her life. We presume that in the contest for sovereignty, which must take place sooner or later when the queens come across each other after recovery from the panic consequent on their violent expulsion from their chosen homes, that "the weakest goes to the wall." If so, as is reasonably probable, you would gain nothing by hunting for and destroying the old queen, and old queens are not always less vigorous than young ones. In your case, doubtless, the rule has held good, and the strongest of the five queens remains mistress of your hive. We do not anticipate any loss in the further scheme you have in view.

**MARRIOTT'S HIVE (Triceps).**—Your swarm of June 1st in this hive seems to be doing well. No doubt they had killed off their drones before the late splendid weather set in. Their being busy and noisy at night indicates pro-

sperty. You may give them the wooden hive you speak of, but they will hardly make use of. We should prefer eking the super.

**MOVING HIVES TO THE MOORS (F. D.).**—The nearer bees are placed to their pasture the more honey will they gather; but at half a mile distant from a good field of heather they will collect large stores of it, weather permitting. Bees find and work on good pasture a mile distant from their homes.

**COMBS MELTED (Smallwood).**—The fact that the combs of your hive have fallen down with honey running out and the bees clustering outside of your hive is proof that it has not been sufficiently protected from the rays of the sun during the late very hot weather. We are sorry you have not had confidence and courage enough to put the bees into a fresh hive and take the honey at the time. In doing it now you will probably find an unsightly mess of smothered bees and broken combs inside. First get a bit of old fustian cloth or old cotton rags, rolled together like a candle, and fire it at one end to smoke as much as possible but not to blaze, and blow the smoke on the clusters outside and brush them all into an empty hive; then blow the smoke into the hive and turn it up. If all the combs are on the board lift the combs singly and brush the bees into the hive beside those that were outside. Of course you will remove the super before you turn up the hive. With plenty of smoke and a little courage any novice could do this. There will be found much loss in this breakdown, even if the honey has not been taken by other bees in your neighbourhood. The sooner you take what honey you can get, and set your bees to work in another hive, the better it will be both for you and them.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain.	
1876.	Aug.	Baromet- er at 39° and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
			Dry.	Wet.			Max.	Min.	In sun.	On grass			
We. 9	Th. 10	Fri. 11	Sat. 12	Sun. 13	Mo. 14	Tu. 15	Means.						

### REMARKS.

- 9th.—A brilliant day, but intensely hot. [day.  
10th.—A very fine and bright day, and very much cooler than the preceding  
11th.—Fine morning; a most delightful day—bright and sunny, but not hot.  
12th.—Another splendid day, very warm, but a nice breeze; rather storm-like about 7 P.M.  
13th.—Very fine and very hot morning, temperature 81° in shade at 9.20 A.M.; intensely hot all-day.  
14th.—Hazy morning, and fearfully hot all day, no movement in the air till the evening, when it looked cloudy and storm-like.  
15th.—Another hazy and hot morning, but soon very bright and as hot as yesterday, cloudy and a breeze between 4 and 5 P.M., with several peals of thunder between then and six, and slight sprinkle of rain, but not enough to be measured.

Mean temperature at 9 A.M. nearly 8° above that of last week, the mean max. 10°, mean min. 8°, and underground 4°, the temperature at 1 foot below the surface having exceeded 70°. The air remarkably dry, as shown by the great difference between the dry and wet bulb thermometers, now all these excesses have arisen from the intense heat of the last four days.—G. J. SYMONS.

### COVENT GARDEN MARKET.—August 16.

THE soft fruit being all finished the market has settled down into a steady sort of trade, and all classes of goods are fetching fair prices. Good Kent Filberts are now to be had.

### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	6 to 5 0	Nectarines.....	dozen	5 10 to 12 0
Apricots.....	dozen	1 6 to 3 6	Oranges.....	dozen	10 0 to 24 0
Cherries.....	lb.	0 0 to 0 6	Peaches.....	dozen	8 0 to 13 0
Chestnuts.....	dozen	0 0 to 0 6	Pears, kitchen.....	dozen	0 0 to 0 0
Currants.....	dozen	0 0 to 0 0	dessert.....	dozen	1 6 to 3 0
Black.....	dozen	0 0 to 0 0	Pine Apples.....	lb.	2 0 to 6 0
Figs.....	dozen	3 0 to 0 0	Plums.....	dozen	7 6 to 10 0
Filberts.....	lb.	0 6 to 1 0	Quinces.....	bushel	0 0 to 0 0
Gelder.....	dozen	1 0 to 0 6	Raspberries.....	lb.	0 0 to 0 0
Gooseberries.....	quart	0 8 to 0 0	Strawberries.....	lb.	0 0 to 0 0
Grapes, hothouse.....	lb.	1 0 to 0 6	Walnuts.....	bushel	0 0 to 0 0
Lemons.....	dozen	10 18 to 0 0	ditto.....	dozen	0 0 to 0 0
Melons.....	each	2 0 to 8 0			

### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	4 0 to 6 0	Leeks.....	bunch	0 4 to 0 0
Asparagus.....	dozen	10 0 to 0 0	Mushrooms.....	dozen	1 0 to 2 0
French.....	bunch	0 0 to 0 6	Mustard & Cress.....	punnet	0 2 to 0 0
Beans, Kidney.....	dozen	0 8 to 0 6	Onions.....	bushel	2 0 to 5 0
Broccoli.....	bunch	1 6 to 0 0	pickling.....	quart	0 0 to 0 0
Brussels Sprouts.....	bunch	0 9 to 1 6	Parsley.....	doz. bunches	2 0 to 4 0
Cabbage.....	dozen	1 0 to 2 0	Parsnips.....	dozen	0 0 to 0 0
Carrots.....	bunch	0 4 to 0 8	Peas.....	quart	0 9 to 1 6
Caulicuffs.....	dozen	1 0 to 2 0	Potatoes.....	bushel	0 8 to 0 0
Cauliflower.....	dozen	1 0 to 2 0	Radishes.....	doz. bunches	1 0 to 1 6
Celery.....	bunch	1 6 to 2 0	Rhubarb.....	bunch	0 8 to 0 9
Colewort.....	doz. bunches	2 0 to 4 0	Salsify.....	bunch	0 9 to 1 0
Cumcubers.....	each	2 0 to 0 3	Scorzoner.....	bunch	1 0 to 0 0
Endive.....	dozen	1 0 to 2 0	Seakale.....	basket	0 0 to 0 0
Fennel.....	bunch	0 8 to 0 0	Shallots.....	lb.	0 0 to 0 0
Garlic.....	dozen	6 0 to 0 0	Spinach.....	bunch	1 6 to 2 6
Herbs.....	bunch	0 0 to 0 0	Tomatoes.....	dozen	1 6 to 8 0
Horseradish.....	bunch	4 0 to 0 0	Turnips.....	bunch	0 4 to 0 6
Lettuce.....	dozen	6 0 to 1 0	Vegetable Marrows.....	dozen	0 2 to 0 8
French Cabbage.....	dozen	1 0 to 0 0			

## WEEKLY CALENDAR.

AUGUST 24—30, 1876.

Day of Month	Day of Week		Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
24	Th	Carshalton Show.	71.6	47.9	58.7	5 2	7 2	11 28	8 28	5	2 4	287
25	F	Largs and Fairlie, and Sandy Shows.	74.1	49.7	61.9	5 4	7 0	0a 46	8 46	6	1 47	238
26	S	Seaton Burn Show.	72.5	48.4	60.4	5 5	6 58	2 3	9 11	7	1 31	239
27	SUN	11 SUNDAY AFTER TRINITY.	78.3	49.1	61.2	5 7	6 55	3 14	9 45	8	1 14	240
28	M		72.7	47.7	61.2	5 8	6 58	4 14	10 32	9	0 56	241
29	Tu	Dover Show.	71.2	49.6	59.4	5 10	6 51	5 0	11 32	10	0 38	242
30	W	Margate Show.	74.5	48.2	61.3	5 12	6 49	5 34	morn.	11	0 20	243

From observations taken near London during forty-three years, the average day temperature of the week is 72.8°; and its night temperature 48.6°.

THE PROSPECTIVE SCARCITY OF VEGETABLES.  
SPINACH.

**O**WING to the extreme heat and long-continued drought vegetables are likely to be unusually scarce during the ensuing winter and spring. In some districts the crops of Kale, &c., could not be planted at the right time, and the plants have since made little or no progress, and what little there are left of them are half devoured by caterpillars and other marauders which are incident to a dry season. Especially in the vicinity of large towns and populous cities will the scarcity, and consequent dearness, of vegetables be greatly felt, and it becomes a matter of importance as to what can at this late season be provided to eke out the scanty supply. Advice has been seasonably given to plant Cabbages freely, but long before the earliest-sown Cabbages can be ready for use the lack of vegetables will have become a great inconvenience.

Owing to the quick ripening of many crops—Pears, Beans, Potatoes, &c.—vacant ground is provided, and the question arises, How can a portion of such ground be most profitably turned to account? Many would doubtless plant large breadths of Coleworts, but unfortunately it is difficult to find the plants. Where they can be had they should be planted freely as soon as rain falls, for assuredly would stout plants planted during the present month yield valuable produce at a time when it cannot fail to be serviceable. Plants thus late in the season need not be planted wider than 9 inches to a foot apart, according to their size. The earth is now warmed by the many days, almost weeks, of unclouded sun, and when heavy showers fall it will steam like a hotbed, and the crops will grow rapidly. Plant Coleworts, therefore, where plants can be obtained, and plant them freely. Failing a supply of these plants any of the Kales now lingering in the seed beds would, if planted similarly closely together, probably prove extremely useful.

Many may imagine that it is "too late" to plant plants of this nature: so it is if they are expected to attain to their full size, but we must remember that if they only attain to half size they may be most valuable, and if planted at the rate of nine plants to a square yard the ground will probably be found to have been profitably occupied. During the extremely hot summer of 1868 gardeners were in much the same state that they are now, and winter vegetables had scarcely made any progress at the corresponding period of the year. In September the rains fell, and a good gardener, whom I need not further mention, had every plant of whatever kind belonging to the Brassica family planted thickly on vacant ground. I am afraid that the men whose duty it was to do the work did it reluctantly, and that allusions the reverse of complimentary were made in reference to him who ordered the work to be done. A long mild autumn followed and was succeeded by a comparatively mild winter, and the vegetable supply mainly produced

by the scrubby plants planted in September was sufficient for all purposes, while in the surrounding neighbourhood there was little short of famine in the land. I may as well place on record that simple and useful lesson which was then taught me—teaching which I have since turned to account during other dry seasons. Do not be frightened by the little words "too late," or by the small unprofitable-looking plants dragging out an apparently miserable existence in the seed beds; but, on the contrary, plant quickly when the rains fall, and plant thickly, and mayhap a dripping autumn and a mild winter may contribute to a valuable supply of "green stuff."

But in many cases plants cannot be had, and recourse must then be had to seed-sowing. Large breadths sown with Turnips, sown thinly, or the plants thinned quickly, would in all likelihood yield useful produce in due time, the use of which would enable the choicer vegetables to be preserved for special purposes. Turnip and Swede "tops" are not to be despised at a time when little beyond root crops can be used for everyday table purposes. Such "tops" often afford cuttings throughout the winter, and in the earliest days of spring give many valuable basketfuls, making the vegetable boy smile, and the cook to go so far as to inquire kindly after the health of the gardener. Do not, therefore, despise plain Turnips, but if "green crops" are scarce and ground is plentiful sow seed on the first opportunity when it is likely to grow freely, and in due time the tops of the Turnips, and possibly the bottoms too, may be as highly valued as the flowers in the greenhouse.

Another crop which will, if seed be sown at this period of the year, produce a large supply of "green stuff" during winter and spring is Spinach. This valuable old vegetable has been grown in Europe for upwards of five hundred years, being included, it is said, in a list of vegetables consumed by the monks on fast days in 1351. Spinach is a productive and healthy vegetable which would possibly be more valued if less common and more difficult to cultivate; it is, however, "miffy" enough in some places, and the crop of winter Spinach has not unfrequently been a source of trouble to many a good gardener. The plants canker, shrivel, or decay—indeed do anything but grow in some gardens, but fortunately in most ordinarily good soils Spinach grows luxuriantly.

For summer cultivation the soil for Spinach cannot well be too rich and moist, but for winter supply manuring of the ground may easily be overdone. It is also possible that errors have been made in sowing the seed to produce the winter's crop in sheltered places, for it is almost certain that the crop would stand better in the ordinary soil of an open field than in the heavily manured soil of a sheltered garden. It is thus also with Cabbages and Broccolis and most large-foliaged crops of a succulent nature. Such crops need a full sweep of autumn air to render them hardy from infancy, and it is seldom that they will then succumb to the vicissitudes of winter.

For some years I have been able to sow Spinach in an open field as well as in a sheltered garden, and in no one



instance have I known the garden crop to endure the winter so well as the field crop. Not only has such been the case, but I have found that the Round or summer Spinach, which is usually considered to be tender, will survive the winter better in an exposed field than will the Prickly or winter Spinach in the lighter richer soil of a walled garden. That information was gained after a dry season and in occupying vacant ground in August and September with such quick-growing crops that were likely to be useful in eking out the prospective scarcity of the winter and spring supply of vegetables. All the vacant garden ground was occupied, and the remnant of the Spinach seed was sown in the field as an experiment, or perhaps, what is more probable, as a freak of fancy. Thus I was surprised to find the Round nearly as hardy as the Prickly Spinach, and the former in the field proved decidedly better than the latter in the garden. Need I say that I have since relied on exposed places and ordinary field soil for my main supply of winter Spinach? Since adopting that practice I have never had a failure.

A great source of failure with Spinach in winter is the moisture hanging round the necks of the plants and which cannot drain away freely. Another evil, and withal a common one, is, in the first place, sowing the seeds too thickly, and then not thinning out the plants sufficiently early. The plants should be thinned, if possible, before they touch each other; then the plants which are to remain are totally undisturbed. If thinning is too long postponed and the permanent plants suffer any disturbance or displacement, and are suddenly deprived of the shelter and support of surrounding plants, then the crop of winter Spinach is almost certain to "go off." If the plants are not thinned out early it is better not to thin them at all: and in all cases it is advisable to take pains to procure good seed and to sow it thinly.

But while Spinach is a vegetable which is in demand almost every day in the year in most large establishments, and the failure of the crop is consequently a source of great inconvenience, yet it is not popular and relied on as a staple vegetable—that is, other vegetables are generally preferred to it; but when we can gather basketfuls of Spinach at a time when the "other vegetables" are not forthcoming, it is surprising how we learn to value that which under other circumstances would be almost despised. It is found also, after considerable experience, that the more Spinach is consumed the more it grows in the estimation of the consumers. When once the palate has become "educated" to its use it is looked upon, as is the gardener who produces it, in a season of vegetable famine, with no small amount of respect.

Therefore is it that the free sowing of vacant ground with Spinach at this period of the year is urged as worthy the consideration of those having large families to supply with vegetables, and an unpleasantly small store (as many must necessarily have) to meet that demand. It may be sown on rich ground or poor, on ground sheltered or exposed; and if more happens to be produced than is required, no great loss will ensue, or probably no loss at all, for the digging-in of the crop is a capital manure for other crops succeeding.—R. FISH'S PUEBLO.

### COVERING SURFACES IN FERNERIES.

ALTHOUGH I am about to recommend *Nertera depressa* for a purpose devoted to which it must lack two of the "three prime essentials" mentioned by "W. B. J." (page 23)—namely, "coolness" and "light," I by no means wish your correspondent to conclude that I approach the subject in a deprecatory spirit. There is no question but that the mode of culture detailed by "W. B. J." is the correct one, but we not unfrequently make a plant serve a purpose in a much higher temperature than its natural requirements demand. The very common and no less very useful *Lycopod*, *Selaginella denticulata*, is very nearly hardy, and yet it grows nowhere so luxuriantly as in a stove temperature. The Maiden-hair Fern (*Adiantum Capillus-Veneris*) is a native plant, but is quite at home in a warm house. The curious Liverwort, *Marchantia polymorpha*, grows on wet rocks icebound in winter for weeks, yet it thrives apace on the saturated rocks in a stove fernery. *Ficus repens*, another hardy plant, attains no such luxuriance in a greenhouse or outdoors as in a stove. We have it in a sort of cavern-like entrance to a fernery, and it makes no effort to reach to the light, and grows slowly. It is thus both interesting and instructive to observe what a persistence some plants have of life and of adapting themselves to circumstances.

In ferneries bare walls and rocks are more or less objection-

able: hence plants of dwarf, dense, yet rapid growth, maintaining an evergreen carpet or covering at all seasons, meet a ready acceptance. Wire trellises fixed an inch or two from walls stuffed with green moss, backed with compost and planted with Ferns and *Lycopods*, have, it must be admitted, a pleasing effect for a time, but soon require renewing. A better plan is in building the wall to let some of the stones jut out a few inches and have the face uneven, so as to form ledges even only an inch or two in width. Upon these ledges can be introduced small plants of *Adiantum Capillus-Veneris*, which only require sufficient soil to maintain them in position, for they will speedily put out their roots over the surface of the wall if it be kept moist. This *Adiantum* is one of the finest of plants for clothing rocks or walls.

If there are any ledges on a level with the eye (or a broad one may be formed by leaving off the inner course of stone just before the wall receives the wall plate) we have only to introduce some chipping of stone for drainage, and put on some peat or old cocoa-nut refuse to have a position for *Nertera depressa*, the plants being divided into as many pieces as wished, from the size of the thumb nail up to that of one or more inches square. All it wants after planting is to be kept moist, never allowing it to lack moisture. It may also be introduced upon any of the ledges on the wall surface, but does best near the glass. In stove or greenhouse temperature it is quite at home—one of the finest, densest, and dwarfest surface-covering plants that I am acquainted with. In heat its insignificant yellowish blossoms appear in early spring, and are succeeded by its orange bead-like berries, spangling amid the moss-like foliage.

Other subjects for wall-covering ledges on walls are the neat *Selaginella apoda*, truly a gem, and the pretty *S. helvetica*. Amongst Ferns with creeping stems suitable for wall or rock-covering may be enumerated *Pleopeltis stigmatica*, the very similar *P. squamula*, *Campyloneuron cespitosum*, *Goniophlebium piloselloides*, *G. vacciniifolium*, *G. lepidopteris* (se-pultum), and *Nipholobolus rupestris*, all of very neat growth, and such as will clothe or dot a wall with verdure in a fitting manner. In order to take off the flatness a few stones may project rather more than others, and upon these we may have *Nephrolepis tuberosa*, its fronds coming out in a particularly graceful manner, its only fault being that of outgrowing other plants; it should therefore be well kept in hand. Some of the *Davallias*, as *D. pentaphylla*, *D. decora*, and *D. solida*, are good on such projections, and no doubt many others, none being finer than *Nephrolepis davallioides*, but it requires room and a stove temperature. The *Stenochlanas* (also requiring stove heat), from their climbing Ivy-like habit are very useful for covering wall surfaces; but what I particularly wish to note is the rapidity with which any uneven surface—even a perpendicular wall, is covered when there are hollows or projections forming resting places for spores and ultimately plants.

There is really nothing so pleasing in a fernery as the rising of numberless seedlings on the rocky surfaces. Cork imitations of rockwork are preferable to cement. Fantastic and grotesque indeed are imitations of rockwork in cement, but no Fern spore will ever vegetate upon it. There is no objection to artificial rock when it is intended to appear as natural rock cropping up here and there either in the massive or boulder formations; but there is a decided disadvantage in such imitations when the rockwork is intended as representing the plants in a state of nature. In nature plants find in the rock they spring from the elements of their existence; but to use cement upon the surface of rockwork is to seal it against plant life. Boulder formation is not an uncommon imitation in rockwork. It is the most simple of all, as we have only to form sloping undulating ground and scatter it with boulder rock; in some places congregated masses, others isolated, with large boulders partly imbedded appearing as parts of a mass beneath the surface. In most cases boulder rock should form, as it does in nature, the sides and hollows of dells. It would be difficult to give any particular directions for constructing rockwork, but I certainly consider all imitations should be taken from the natural types. No two kinds of stone should be used in the same rock or any of its parts exteriorly, and due regard being had to the requirements of culture.

Rockwork formed of "cobblestones" cannot be too severely censured. The want of better materials may have given rise to the imitation of rock in cement, the sites for plants being thereby reduced, so as to give a like proportion of positions for plants as that afforded by natural rocks, but with the regularity of culture instead of the picturesque irregularity of

nature. Sites for plants will, of course, be the aim of the rockwork constructor. Recesses, crevices, ledges, and these so disposed as not to show a preponderance of rock or of verdure throughout, but imposing masses of both, rock preponderating in some parts, verdure in others, the latter being mostly in nature located in the recesses. As a rule the lesser forms of Ferns only are in nature associated with rock in the mass, the taller forms being present near the boulders, whilst the most stately are not associated with rock in any form. In planting rockwork plants are frequently placed in positions in which they cannot show themselves advantageously, and far too much grotesqueness is attempted, intricate ugliness supplanting Nature's simplicity.

I must refer once again to the covering of wall surfaces or rocks. I have already noted the covering of them with Ferns, we will now do it with *Ficus repens*; and I strongly advise the wall to be built rough, as it will certainly appear the better when covered with the *Ficus* and the ultimate planting of its surface with Ferns, for the *Ficus* forms by its branches and roots (aërial) the finest of all holders of compost, it being only necessary after the wall is well covered to make an opening with the hand, parting the *Ficus* from the wall, and introduce soil; but I put in cocoa-nut refuse and turn out a plant from a pot into the hole in the *Ficus*, and firming the cocoa refuse about the plant. Any kind of Fern almost will grow in such positions, but those with drooping fronds, as *Goniophlebium subauriculatum*, *Adiantums*, *Aspleniums*, and *Platyneriums* appear best. These or others appearing upon or from the green coppery mantle of the *Ficus* have, I think, a much better effect than even a Fern-covered wall, exhibiting as it does, under the best of circumstances, too much wall, the *Ficus* being a complete covering. It is hardly necessary to add that soil must be provided for the plants to grow in—i.e., the *Ficus*. I use sandy peat with a little turfy loam, and the wall surface is kept constantly moist.—G. ABBEY.

[*Ficus repens* is not usually considered a "hardy" plant. It is a stove plant, but we have known its sprays to protrude from the inside to the outside of a house and pass through at least one winter uninjured. It is a native of the East Indies.—EDS.]

### ROSES, &c.—SYRINGING.

I was taken to task by one of your correspondents some little time back for having made too general a condemnation of the Briar stock, and quoting his own experience of success. Now, if I remember rightly, the conditions under which the Roses on the Briar which he mentioned as being successful, were exactly those under which the Briar has a chance of succeeding—that is, not as standards, but as stocks to Roses trained against the wall and allowed to grow freely. I have never said that the Briar will not succeed on certain favourable soils and under certain conditions; but I have always maintained that the system of growing Roses as standard bushes, be they tall or be they dwarf, is one which militates against the production of really good Roses. The whole system of pruning and training is against the true nature of the Rose, which is always inclined to throw up strong shoots from the base. Look at a Dog Rose in a hedge, and you will find that every year it throws up suckers from the roots. Look at all Roses on their own roots or on Manetti stocks properly planted, they will continually push up strong shoots from near the ground. These are the shoots which produce the best blooms, and which should be taken most care of by cutting away old wood and encouraging free growth; and this is precisely what cannot be done with standards grown to mop heads. Standards well covered with Roses may be pretty while in bloom, but for the greatest part of the year they are unsightly. I am not going to repeat now what I have said before about the mortality among standards on the Briar, but I do venture to repeat my warnings against planting standard Roses in small gardens. No doubt there are some soils more suited for the Dog Rose stock than for the Manetti, as all heavy clays and unctuous loams. But in these soils Roses might be grown as dwarfs on the seedling Briar with the crown planted either below or on the level of the ground, or they may be budded on the Dog Rose grown from cuttings. Any way, as a rule, if the Briar is to be used, it is far better to use either the seedling Briar or cuttings, or grafting Roses on suckers of the Briar. I have so often seen standard Roses completely destroyed by frost or burnt up with dry weather, that I rarely now see a standard in Yorkshire with a decent Rose on it; but I do not on that

account wish to condemn it as a stock when properly used for dwarf Roses on strong soils.

I see "WILD SAVAGE'S" experience of his brother's Roses in the north agrees with mine. Always prune late. My Roses were not pruned this year till the last week in April, and I never had on the whole better blooms. The cold winds of March and April with severe frosts had so injured all the young spring shoots that I had in nine cases out of ten to cut back to dormant buds. Had I pruned back early the new growth must have suffered. As I do not exhibit I do not go through the agony of mind that "WILD SAVAGE" (how long will he continue his *soubriquet*?) and others do about having blooms ready for the principal shows, and I do not mind having them late, and this year I hardly had any Roses till the first week in July. My experience of this year's season with several of the Roses he mentions has been quite similar to his. Charles Lefebvre has been seldom good, nor has Alfred Colomb been as good as usual. I have had some wonderfully fine blooms of Thomas Methven, a sort originally much recommended by the late Mr. Perry, a very good judge, and I never before knew how fine a Rose it could be, two or three blooms I cut this year being almost the best alike in form and colour and fullness of petal of any Roses I have seen this year. Edouard Morren, too, I must confess, even against my prejudices, has been good, and M. Boncenne, which is rarely really good with me, has been very fine. Other sorts very good this year have been M. Marie Rady, Baroness Rothschild, La France, Maurice Bernardin, Xavier Olibo, Boule d'Or, Marguerite de St. Amand, Marquise de Castellane, Etienne Levet, F. Michelon, Fisher Holmes, Duke of Wellington, &c. I do not much believe in either the syringe or the water-pot for Roses in the open borders. Give plenty of mulching and manure during winter and spring, and, unless the season is very exceptional, there will be no trouble with green fly and no necessity for the water-cart, unless it is with Roses trained to walls.

While on the subject of water I venture to say that Mr. Abbey's warning against the use of the syringe for Grapes, Peaches, &c., and amongst stove and greenhouse plants, seems to me very fraught with danger. I see so many more plants injured from not using the syringe enough than from the free use of it, that, though he may be correct in theory in saying that leaves in a state of nature do not receive rain underneath, yet he must remember there is many a heavy rain that comes in driving showers and washes the under part of the leaf as well as the upper. I do not believe in the bloom of Grapes or Peaches being injured by pure rain water. I syringed a bunch of perfectly ripe Grapes with a jet d'eau a few days ago as hard as I could force it within a few inches of the bunch, and did not bring off the bloom. I do not mean to say that plants may not be injured by useless syringing; but I am convinced that far more plants which are growing in houses much exposed to the heat of the sun are spoilt through neglect of the syringe than by the overuse of it, and that it is a most valuable remedy to keep down the attacks of red spider, thrips, green fly, and other insect pests. I am not and never was a believer in the idea that leaves could suck in moisture through their breathing pores, as I believe that all carbonic acid is absorbed through the roots, and that during light the growth is matured and the carbon fixed when oxygen is given off, and during the night the leaves evaporate moisture and carbonic acid; but syringing checks evaporation and keeps both the upper and under sides of the leaves clean and free to carry out their proper functions, and I am consequently convinced that syringing the under sides of leaves will do no harm even though in nature the upper surface may be most exposed to the action of rain; but as plants in houses are under artificial treatment, the rain has also to be artificially applied, and so long as leaves are not bruised or broken I do not believe soft water from a syringe will hurt them, unless a house is made too damp and cold by too constant a use of it.—C. P. P.

### GRAPES CRACKING.

GRAPES seldom crack or split before they begin to ripen. An excessive flow of sap is generally supposed to be the cause of the disaster. This may be correct in exceptional instances, but I think as a general rule cracking is the result of a damp close atmosphere more than anything else. It is pretty well known how a shower of rain will cause Gooseberries to burst, and moisture appears to act the same way on Grapes.

I saw a large vineyard a short time ago which was chiefly

planted with Black Hamburgs. The fruit was about quarter ripe, and a few nights previous they were well syringed for what was intended to be the last time. The ventilators were closed for the night as usual, and next morning nearly the half of the berries on every bunch were burst. The atmospheric dampness was the only difference to what they had been accustomed from the time they started to colour. I have since been told of one or two other cases of the same kind, and I think it may safely be inferred that an over-damp atmosphere is one of the chief causes of Grapes cracking.

Vines may be syringed after the fruit commences colouring, and where insects are plentiful it is necessary to do this; but when such has to be done great care should be taken to leave both top and bottom ventilators open a little, so that a current of air may pass through the house until it is quite dry. Many Grape-growers are in the habit of leaving the ventilators open to a certain extent night and day, and if this plan was more adopted there would be fewer cases of Grapes cracking.—J. MUIR.

### THE TIMBER SUPPLY—TREE PLANTING.

THE articles which have been published under the above heading relate to matters of considerable importance. One cannot read of the wanton destruction of valuable timber without regret, let such waste occur where it may. That our American friends, with their vast timber resources, are recognising the necessity of checking the destruction of timber is a circumstance from which we may profit; for if in England we have no such corresponding waste, the waste of previous generations is both seen and felt, and the dearth following the scarcity of English timber is unfortunately too well established.

In many of the rural districts of England timber has become so scarce that tradesmen and farmers have to travel many miles to "wood sales," and the eagerness which they display at these gatherings to become possessed of the different "lots," demonstrates in a most conclusive manner that timber is regarded by those best able to judge as a scarce and valuable commodity.

I cannot say that I read with pleasure the account of the waste of timber going on in America which appeared on pp. 140-141, but I read it with interest, and I was gratified to notice the editorial remark—that "the planting of timber trees should be encouraged."

Certainly tree-planting should be encouraged in England, where felling trees has been carried on to such an extent that in some districts there are scarcely any trees left standing, and no young plantations are being established. Apart from the timber supply the clearing the land of trees is an unwise policy, for there is little doubt but that such denudation is fraught with disadvantages. I have been informed that since large districts in India and America have been denuded of trees that the atmosphere has become greatly changed, and that long periods of drought have succeeded. A clergyman in England some years ago entered an earnest protest against the destruction of the only large wood in his locality, on the ground that the rainfall of the district would thereby be so greatly diminished as to be detrimental to the prosperity of agriculture. That district is now one of the driest in England, and is notorious for the tracks of thunderstorms which, almost with the regularity of clockwork, pass it by on either side.

Woods and trees serve also an important purpose, in affording both shelter and shade—shelter from cutting boisterous winds, and shade for the panting herds and flocks from the fierce rays of the summer's sun. It is only those dwelling in woodless districts who can adequately appreciate the value of shade, and considerable expense has been incurred in providing it in an artificial manner after the error was perceived of removing the natural shade—the trees. There are agricultural "reformers" who are so ardent that the sight of a tree nills them with horror, but were they transported to wholly treeless districts their propensity for felling and "stubbing" would probably become modified.

But while some districts have been almost entirely denuded of useful timber trees by felling of the old and neglecting to plant the young, others there are which are heavily wooded, and yet the wood is in a great measure unprofitable. Woods are preserved in many instances, not for the value of the trees, but for the "game" which they encourage, and for fear of "disturbing the game" there must be little or no felling of trees, and the timber on hundreds of acres of land is in a measure rotting on the ground. That is a great waste and a great error. Woods and plantations are frequently so managed

—or rather mismanaged—that they are a great loss to both the owners of them and the inhabitants of the district. Owners have a right to enjoy their own—to their game and their woods, but one would imagine that they would enjoy it the more were it profitable, as all wooded property might be, and have "game" into the bargain.

Many years of experience tell me that wooded property if rightly managed is as lucrative to an owner as the acres which he "lets" to his tenants for agricultural purposes. I am intimately acquainted with an estate, the miles of woods of which were for generations profitless to the owner, but which for the last twenty-five years, under different management, have been "self-supporting;" and much more than that, for the additional labour which has been employed has been beneficial to many families, the timber that has been produced has been of great value to the trading community, the owner has derived an income from land that was formerly a loss to him, and "game" is as plentiful as ever.

In these woods there have been annual fellings of trees—thorough clearances—and annual plantings—that is, that for every large timber tree that has been cut down certainly twenty small trees have been planted. For twenty and more years from 50,000 to 150,000 trees have been planted yearly. These have been principally Larches, which have been planted about 4 feet apart as nurses to the Oaks, which are to be the permanent trees. The liberal planting of Larches is profitable. In a very few years thinning must commence; the first thinnings selling freely as stakes, the second as stouter fence wood, the third as small poles, and so on according to the growth of the trees. I have known more profit derived from a given acreage of Larch over a period of thirty years than has been obtained from any other portion of an estate which was rented by agricultural tenants. The planting of trees, therefore, should be encouraged, both as a profitable investment on the part of a proprietor, and also as conferring benefit in many ways to a district.

There are thousands of acres of "scrubby" woods and profitless wastes which could be utilised by the planting of trees freely, and especially Larches; and on soils wherein Larch will not grow Scotch Firs will flourish, be the soil ever so poor.

Our timber supplies are becoming so exhausted that it is well that attention is being directed to the subject, for if the whole question is thoroughly examined it can hardly fail to result in the more general and systematic planting of trees, and the converting of almost useless wastes into profitable tracks. If the matter of timber preservation and the necessity of planting is of importance in America—and such appears to be the case—it is of far greater importance in England, where the scarcity of wood has caused it to rise 100 per cent. in value during the last half century.—A FORESTER.

### A HARDY PERENNIAL FLOWER BORDER.

A BORDER or bed of hardy flowers that is thoroughly well managed is one of the most attractive features of a garden not merely at a stated season but throughout the year. In the very depth of winter it has its snowy masses of Hellebore (Christmas Rose), and quaintly formed succulents, among which spring-up the Crocus and Snowdrop—heralds of spring, while it is yet far off—Erica carnea with its thousands of deep pink bells, the Gentians and Anemones in all their charming varieties, while a host of other gems come crowding upon us as the year advances.

There is a very prevalent idea that when once the flowers are planted in such a border very little subsequent care or attention is necessary. Nothing can be more erroneous than such an impression, leading as it does to neglect that is as hurtful as unintentional. When flowers for all seasons are planted, the fact of itself implies that frequent attention to staking, tying, pruning, thinning of crowded growth, is necessary; also if the soil is a deep, sound, and tolerably rich loam, as it ought to be, this involves much lifting, division, and re-arrangement—all apparently trifling matters, but yet they cannot be ignored if we wish to preserve our plants in full health and vigour. I am very well aware that flowers even in profusion may be found in borders that have remained undisturbed for years, but all such borders that have come under my notice have been very far below the standard of perfection which it is possible to approach. We want less roughness, crowding, and confusion, and more of trimness and individuality. Now individuality or tone is easily imparted. Take for example a border sufficiently wide to admit of a bold

belt of Hollyhocks along the back, with an occasional specimen of *Fuchsia Riccartoni* standing-out in the centre, with other specimens between but kept well apart, such as *Tritomas*, the autumn-flowering *Asters* (*Michaelmas Daisy*), the tall-growing *Campanulas*, and masses of *Lathyrus*. In front of these and among them arranged with strict regard to height and habit of growth, we would have specimens of such kinds as are bold enough to produce an effect singly like the *Phloxes*, *Pentstemons*, *Aquilegias*, *Antirrhinums*, *Spiræas*, *Veronicas*, and *Tradescantias*. There should also be clumps and little colonies of other plants of more lowly growth, like the *Geums*, *Anemones*, *Gentianas*, *Violas*, *Primulas*, and many others, keeping each plant or group sufficiently far apart from the others to admit of its full development. Does not this arrangement convey to the mind a picture that is as desirable as it is uncommon—a picture, too, that admits of almost endless variation? Bulbs, spring and summer annuals, are all available for our border, as they are certainly desirable.

"J. S. W." has a border 36 yards long by 2 wide, used hitherto for ordinary spring and summer flowering plants, which he wishes to convert into a hardy perennial flower border. To render this gay next season solely with hardy flowers, three or four times the number would be required that there would eventually be space for. It would, therefore, be better to plant only a certain quantity in the first instance, filling the intermediate spaces with bulbs and annuals for a few seasons, adding to the permanent occupants annually as may appear necessary.

The following list contains only sorts of known merit, those which embrace many varieties, as *Phloxes*, *Pyrethrums*, *Pentstemons*, *Carnations*, *Primulas*. *Dianthus*es should be planted sparingly at first, and gradually added to as individual taste may induce a preference for either genus.

<i>Dielytra spectabilis</i>	<i>Papaver orientale</i>
<i>Pyrethrums</i> in variety	<i>Anemones</i> in variety
<i>Dodecatheon elegans</i>	<i>Aster versicolor</i>
<i>Gentiana acutis</i>	<i>ericioides</i>
<i>pneumonanthe</i>	<i>bessarabicus</i>
<i>asclepiadea</i>	<i>Delphiniums</i> in variety
<i>verna</i>	<i>Arum italicum</i>
<i>Trillium grandiflorum</i>	<i>Ranunculus aconitifolius</i>
<i>Geum coccineum</i>	<i>Iris germanica</i>
<i>Ponies</i> in variety	<i>susiana</i>
<i>Helianthemums</i> in variety	<i>reticulata</i>
<i>Campanulas</i> in variety	<i>Alyssum saxatile</i>
<i>Helleborus niger</i>	<i>Hollyhocks</i>
<i>Spiræa palmata</i>	<i>Veronica spicata</i>
<i>Erica carnea</i>	<i>gentianoides</i>
<i>Dianthus</i> es in variety	<i>Teucrium</i>
<i>Aquilegias</i> in variety	<i>Potentillas</i>
<i>Daphne cneorum</i>	<i>Oenothera macrocarpa</i>
<i>Pentstemons</i> in variety	<i>taraxacifolia</i>
<i>Statice latifolia</i>	<i>gigantica</i>
<i>Tritoma Uvaria</i>	<i>Hesperis matronalis</i>
<i>Antirrhinums</i> in variety	<i>Cheranthus Marshallii</i>
<i>Tradescantia virginica</i>	<i>Lathyrus latifolius albus</i>
<i>Phloxes</i> in variety	<i>rotundifolius</i>

—EDWARD LUCKHURST.

### PRUNING ORCHARD TREES.

THERE are many Apple orchards which can be depended on for a crop of fruit only once in every two years, and the crop then is generally so great numerically that the individual fruits are small and inferior in quality, the trees not having sufficient strength to bring the superabundant crop to perfection; and yet if the trees had only been treated in a manner which almost any ordinary countryman can be made to understand, a fair crop of fine fruit in a bad season and a heavy crop of superior fruit in a good fruit season would be produced. The way I have adopted, and which has produced these good results, is as follows:—

My trees had for a few previous years been neglected, and their tops had in consequence become much crowded with thin and imperfectly developed branches; the leaves were very small, and the trees generally much blighted. A man and an active boy, who could climb well and knew how to use a saw, were set to work during sharp weather in the winter when ordinary work had to be suspended. The man stood below with a long pole and pointed out to the boy in the tree the exact spot at which the branches which appeared to be in the way should be cut off. At least half the tops of the trees were in this way thinned out, and plenty of room was made amongst them for the free circulation of light and air. Sufficient firewood was cut out to pay for the work done. The trees after the operation spread over as much space as before, but only having half the number of branches to support it followed as a matter

of course that each branch was able to derive double the amount of nutriment from the roots that it had been receiving before, and therefore produced larger and healthier leaves, larger and healthier flowers more able to withstand the effects of spring frosts, and larger, healthier, and better fruit. An orchard treated thus may even in unfavourable seasons be depended upon for producing a fair crop of fine fruit, and in a favourable season a very heavy crop of superior fruit, and this will last till the trees succumb to natural decay from old age, or from exceptional causes which will of course sometimes arise.

The almost general failure in the Apple crop on large trees this season might have been avoided had people not been afraid of making an intelligent use of the knife.—J. E. EWING, *Royal Norfolk Nurseries, Norwich.*

### LANTANAS.

For some years past these attractive plants would seem to have been somewhat neglected. They used to be included in most gardens where collections of plants for the greenhouse and flower garden were cultivated; but latterly it has only been in a few places where justice has been done to them. Yet, although *Lantanas* are not extensively cultivated, better varieties than ever have been raised, and as soon as the merits of these varieties are sufficiently known their cultivation will almost certainly follow.

Especially as bedding plants in hot seasons and in dry localities are *Lantanas* valuable. They resist the effects of extreme heat better than most bedding plants, even better than do *Geraniums*, for during the present tropical season *Geranium* beds have a literally "seedy" appearance, their trusses being mostly trusses of seed pods. *Verbenas* are also dried out, and *Lobelias* are transient, but *Lantanas* are fresh and luxuriant, having foliage intensely green and flowers in profusion and in great variety of colour. The plants, too, are quite free from insects without the aid of doctoring, syringing, or fumigating—no small advantage in a season like the present, when most plants have had a full share of insect or grub enemies to struggle against.

The effect of a bed of mixed varieties of *Lantanas* may not be fully as gay as a bed of *Verbenas*, but it is equally pleasing, and colours are represented in the former which are not found in the latter. The glossy freshness of the foliage of *Lantanas* is also such as cannot be rivalled by *Verbenas*.

*Lantanas* grow freely in ordinary garden soil. It should not, however, be too rich and the plants have too much water if a profusion of trusses are desired. They are also admirable for cultivation in pots for conservatory decoration in summer. The plants may be prepared in cold frames, or may be plunged in ashes in a warm position in the open air. No plants are more easy to cultivate, and perhaps the only point in which they are not generally admired is their peculiar perfume. For hot gardens, vases, and sunny sites grow *Lantanas*. The following are good varieties:—

*Magenta King*.—Colour purplish scarlet; a free bloomer, and of dwarf habit. Suitable for pots or beds.

*Don Calmet*.—Pink, changing to yellow; a very free bloomer, and good yet dwarf grower. An attractive variety.

*Favourita*.—Brownish yellow, changing to scarlet, suffused with purple. A distinct and effective variety.

*Victoire*.—Pure white, with a lemon eye; a good grower and free bloomer.

*La Manula*.—Rosy pink, deepening in colour towards the centre of the trusses, and changing to yellow at their margin. Free and attractive.

*Mons. Chauvière*.—Red, changing to scarlet, with a yellow centre. A gay and attractive variety.

The abovenamed half-dozen varieties are worthy of cultivation in pots, and they are also excellent for bedding purposes, continuing in bloom for a great length of time. I have found these plants very valuable, and especially during the present hot and dry season.—A SURREY GARDENER.

### NEW BEDDING PLANTS.

In taking notes of bedding plants this year I can strongly recommend to those who have not tried it *Ageratum* *Countess of Stair*. It is somewhat lighter and much softer and brighter than *Imperial Dwarf*, a very free bloomer, compact grower, and with good stiff truss thrown well up above the foliage. It is decidedly the best *Ageratum* I have yet seen. *Lobelia* *Alpha* has quite borne out the high opinion I formed of it.



Among new sorts of Geraniums on trial in beds the Rev. T. F. Atkinson (Pearson), a crimson, very large both in flower and truss, has been striking. John Gibbons, a bright scarlet, very fine. Both are somewhat strong growers. Mrs. J. F. Fenn, in the way of Amaranth, a deep lilac pink, has had magnificent trusses. It is a very good match for Mrs. Musters or Amaranth. Sir H. Stanhope is an improvement on General Outram. Miss Strachan (Pearson), a salmon, has proved good in beds as well as in pots; and two beautiful bright pinks, Lucy Bosworth and Lady Byron, have both done well in beds, though I think they are better for pots. Lady Stanhope as a variety of the Lady Middleton type is very superior both for pots and beds. Among others which I need not stop to specify which have been and are exceedingly effective are Frank Miles, Augusta Miles, Mrs. Lowe, Violet Hill (both the last as good as ever), Bayard, Mrs. Vincent, General Outram, Mrs. Huish, Lady Kirkland, Arthur Pearson; and among tricolors William Sanday and Macbeth stand pre-eminent. I will add a few more notes on this subject shortly.—C. P. PEACH.

## VEGETABLES AND FRUIT AT SWANLEY.—No. 2.

*Continued from page 140.*

A NOTICE of the soil's productions of this fertile district would be incomplete without some allusion to the vegetable crops—the Potatoes and Peas—and to the fruit plantations, especially of Raspberries and Strawberries, which are extensively and ably cultivated.

The fields are not small enclosures and to be compared with the size of large gardens—indeed they are scarcely enclosures at all, for there are but few dividing fences, and where there are barriers there are fewer gates, and the fields are apparently open to all. An aspect of freedom pervades the district, and restrictions as to "right of way" do not appear to be appreciated if we may take as an example the liberty which had been taken with a gate on which the owner had had printed in large letters—"No Thoroughfare," and from which the "no" had been carefully obliterated, converting the inscription into a general invitation for all to enter who chose to do so.

The fields vary from one to five hundred acres, and far as the eye can reach the undulated surface is clothed with Potatoes and fruit plantations, and here and there a corn field by way of a change. To such an extent is fruit cultivated in this district that not less than five hundred acres in one parish alone (Croken-end) are cropped with fruit trees; and to such an extent also are Potatoes cultivated that last year one grower (Mr. Vincent) sold six hundred tons of Paterson's Victoria, and in the spring of this year he planted a hundred tons of the same variety.

It is instructive to note the way in which the land is managed for Potatoes, and how the crops are cultivated. The present summer has been remarkable for the great heat and drought which have prevailed in the southern districts, and to this Swanley has been no exception. Scarcely a shower has fallen since the Potatoes were planted. The pastures were parched and the roads were some inches deep in dust, yet the Potatoes were in the most luxuriant health, and the haulm covered the ground so completely that the rows could not be distinguished. A more conclusive instance of superior cultivation cannot well be imagined than is afforded by the condition of the crops. Their admirable state is attributable to deep cultivation, liberal manurings of the ground, perfect freedom from weeds, and persistent surface-stirring—or "crumbing" as it is called in the locality.

The ground is first deeply dragged by the steam cultivator, and is "worked" over and over again—probably seven or eight times before the Potatoes are planted—to form a good "crumb." It is then formed into ridges 2½ feet apart, the sets being planted in the hollows, and the ridges are then "split" and the Potatoes covered. This is the system which is adopted in the large Potato-growing districts of Lincolnshire and Yorkshire, and the only drawback to it is the "sole" that is left by the pressure of the plough, and which in wet seasons prevents the superfluous water from draining away readily, and in dry summers obstructs the uprising of moisture from the sub-soil. This drawback to a good and sound crop—and it is often a formidable one—is removed in the best-managed Potato fields in Kent by a practice which has proved its value, and which is not generally known. When the Potatoes appear above ground in May—that is, when they can be seen in rows, a cranked implement is brought into requisition, and this, with the aid of three or four horses, is made to work quite underneath the

roots from length to length of the rows. This implement runs beneath the plants, and at a depth of a foot from the surface, producing the "crumb" below as well as above the roots, which is so greatly coveted. After this operation the Potatoes grow with great rapidity, and I was assured by one who has worked amongst Potatoes all his life that the value of the crops which have been thus assisted is considerably greater than others which have not been "under-crumbed." The Potatoes are subsequently earthed with the plough or "scuffer," and are dug with forks by the "tatyers," who take them up at a price per acre as is agreed upon according to the nature of the crops. Stable manure brought in trucks from London, and also street-sweepings known as "tackle," are the stimulants mainly relied on to produce large crops of Potatoes.

Peas are also grown on a large scale in the locality—not small early round-seeded kinds, but entire fields of Ne Plus Ultra. This fine Pea flourishes admirably under field culture and yields productive crops. The Peas are sown in drills about 2½ feet apart. The horse hoe is run between the rows to destroy weeds and to promote "the crumb," and the crops then receive no other attention beyond that of the "podders"—men, women, and children, who arrive in due time to gather the Peas for market.

More important, however, than the crop of Peas are the crops of fruit. Plums, Cherries, Currants, Strawberries, and Raspberries are the kinds which are principally grown. Taking a survey of the district from a commanding eminence it is found to be freely, almost heavily, wooded. The woods and plantations in most districts are composed of forest trees, but here the plantations are plantations of fruit trees. There are a few copses here and there of stunted Oaks and Hazels, but these are gradually being removed, and their sites are being more profitably occupied with fruit trees and Strawberries. In the hedges Damson trees appear to grow spontaneously—in fact, the "hedgerow timber" of the district is composed almost entirely of these trees. After the trees have produced fruit for a number of years they are pollarded, or cut down precisely after the manner in which Willows are often treated, and from the old stumps fresh shoots push freely, and in a few years the trees have new heads and yield larger and finer fruit. This mode of heading-down old fruit trees was last year advocated in these columns by several correspondents, and, as may be remembered, others dissented from the practice as being rude and barbarous; but it must be admitted that hundreds of Damson trees in Kent bear witness to the usefulness of the practice which is adopted of "heading them down."

Large plantations of Currants are also to be seen. There are many acres of bushes heavily laden with fruit, and the bushes are very severely pruned, more so than is usually the case in gardens. Raspberries are also very largely grown under field cultivation, and produce annually many tons of fruit. The ground is deeply dragged and well manured, and the canes are planted in rows about 4 feet apart, the plants in the rows being about 15 inches distant from each other. The soil between the rows is frequently stirred with the horse hoe, and weeds are prevented growing and a loose surface is produced which arrests evaporation. The canes grow very short-jointed and become well matured. They are shortened in winter to a height of about 3 feet, and no support in the way of stakes, &c., is given to the canes, each cane, in fact, being sufficiently stout to support itself. The crops produced by this mode of culture are very large, and the fruit is fine, highly coloured, and well flavoured. A favourite variety appears to be Carter's Prolific.

The Strawberries yet remain to be noticed. Hundreds of acres of land are devoted to Strawberry cultivation, and hundreds of tons of fruit are produced annually. The rows of plants are about 2 feet apart, the plants being about 18 inches distant in the rows. The rows are as straight, even if they are a quarter of a mile in length, as are the rows in a well-kept garden, and the plants are perfectly healthy and produce large crops of superior fruit. Each plantation occupies the land for about five years, producing four crops of fruit, and is then destroyed. In the summer, after the fruit is gathered, the runners are trimmed off and also most of the old foliage. The trimming of the plants was being proceeded with in August, when not more than half a dozen leaves were left in the centre of each stool, the others being all cut away. No doubt reasons might be advanced proving that practice prejudicial to the crop, but the fact remains that the mode of culture here adopted is a profitable mode, and failures are exceedingly uncommon. The fruit attains the largest size,

and those who are competent to judge affirm that the flavour of Strawberries which are grown in open fields is much superior to that of fruit which is produced in enclosed gardens. The soil between the rows is kept quite loose with a view of preserving the moisture in the soil; and although there had been scarcely any rain for months, and much of the soil was composed of sand and gravel—soil which one would consider to be totally unfitted for Strawberry cultivation—yet the plants were fresh and vigorous to a much greater degree than is usually seen in gardens—in fact, it is little short of marvellous to see the luxuriance of the plants in a soil apparently so light and poor. In some fields the surface is quite covered with gravel, and when moved little beyond pure sand can be seen; but below the loose surface the soil is moist, and it is this moisture, with the full sweep of wind, which probably keeps in check red spider, to which the remarkable condition of the plants must be attributed. The site of the Strawberry fields is elevated, and the crops are generally better on the hills than in the valleys. The finest pieces of all are on ground from which the copses have been cleared. As the scrubby profligate “wood” is cleared off, Strawberries are planted without any manure, and they flourish in a manner which is quite astonishing. Sir J. Paxton and Eleanor are the favourite sorts.

A visit to this fruitful district suggests how land which may have for many years been almost unremunerative may be turned to profitable account by placing it under fruit cultivation. Strawberries are considered to be the most lucrative crop that can be grown in this district, and their culture has contributed in no small degree to make the fortunes of those who have entered on their cultivation in a spirited and intelligent manner. It is instructive to note the extensive and successful manner in which fruit is cultivated around Swanley, and especially is the value of deeply working the soil and constantly moving its surface most strikingly manifested by the healthy appearance of the crops during a season that has been remarkable for extreme heat and drought.—J.

#### NOTES OF A SCOTTISH TOUR.—No. 3. CASTLE KENNEDY.

BEFORE entering into any details of this most interesting place it may be well, as I have said something of the situation of the place, to add a few words as to its climate. It seems to be one peculiarly adapted for the classes of plants which have been used in laying out the grounds; for although lying so far north it is far more mild than many of the southern parts of England—in fact approximating more to that of Devonshire and Cornwall. This is to be attributed, I suppose, in great part to the influence of the Gulf Stream, which divides off the western coast of Ireland, one portion of the current running northwards. Hence the mildness of the coast, snow seldom remaining long on the ground, severe frosts being rare, and moisture abundant; and hence the pinetum at Castle Kennedy passed unscathed through that terrible Christmas eve of 1860, which laid low so many hopes of the landscape gardener in less favoured districts, and this must be borne in mind by any readers of these notes. They may say the statements are entirely opposed to their own experience. It may be so, but then the position and climate of Castle Kennedy are peculiar, and have enabled the noble proprietor and his excellent gardener to achieve results which are impossible in many places. As an instance of this let me note the remarkable manner in which the Sikkim Rhododendrons flourish. They are planted in all directions, flourish as well as the more common kinds, and equally by the beauty of their foliage and inflorescence add wondrously to the effect; and it would surprise many people to see varieties such as *Thomsonii*, *campanulatum*, *campylocarpum*, *barbatum*, *nobilis*, *niveum*, and *lanceolatum*, which we have been accustomed to associate with greenhouse culture, flourishing vigorously in the open air; also one the name of which Mr. Fowler has been unable to ascertain. It grows as rapidly as *R. ponticum*; has long pointed leaves of a mahogany colour on the under side, the upper side dark green; the young wood of a dull red colour. The flowers are white, with dark spots inside, and black anthers. Mr. Fowler is so impressed with the extreme beauty and usefulness of these noble plants, that he is gradually extending them all over the place, and they will soon be quite a feature of themselves. Of the hybrid Rhododendrons there are immense quantities growing on banks and in every available place. Driving along by the loch one sees whole banks of them on the other side, mixed as I have

said with Fuchsias, and these latter were all ablaze with their brilliant scarlet flowers. The species used is *F. discolor*, introduced from Port Famine in 1830, and believed to be the parent of one more generally used and known as *F. Riccartonii*; it is even hardier and earlier than that, and attains here quite a grand size. It is not uncommon to see them 12 and 14 feet high and as many feet through; and as they are freely planted amongst the Rhododendrons and do not come into flower until the Rhododendrons have gone out completely, give a great brightness to what would otherwise be a dense mass of foliage alone.

It is impossible for me to give any adequate idea of the extreme beauty of the planting of the pinetum and ground adjoining. It is not—as one has seen pinetums in other places, where single specimens stand out from all other surroundings—to be admired alone. Here they are in groups and avenues intermingled with other trees. Here, for instance, is an *Araucaria* avenue, in which the trees are in the most flourishing condition—no scorched and naked stems, but all in the rudest health; then we come on a Box avenue, of which the same may be said; then there is a scarlet Thorn avenue. Here again are groups of Irish Yews, and close by an avenue of the Golden Queen Holly. Then again we come on an avenue of *Cupressus macrocarpa* with trees 16 to 28 feet high; while whole quarters of *Pinus cephalonica*, *Picea nobilis* and *P. insignis* met the eye in every direction, together with fine single plants of *P. Webbiana*, *Abies Morinda*, a most lovely Conifer from the Himalayas of drooping habit, *A. orientalis*, very fine, *Abies Douglasii*, a king among Conifers in respect of vigour, habit, and dense dark foliage, and a very beautiful variegated form of it raised here and called by Mr. Fowler *Stairii*. I saw this in all stages from the tiniest plants in the nursery ground up to largish trees, and in all stages it was good and the variegation most constant, and I have little doubt that when better known it will be found as useful as *Acer Negundo* variegata in lighting up plantations, with the additional advantage of being evergreen instead of deciduous. Then *Picea lasiocarpa* and *P. Laricio* were to be seen in great numbers, the latter outstripping in growth the native *Firs*. The Japan species, *A. firma*, also does well, so does also *P. muricata*, and in fact every species seems to thrive.

There are some conclusions which Mr. Fowler's experience has led him to, about which there have been in some cases sharp controversies. It has been said amongst other things that home-grown seed is not as good as the foreign. Now Mr. Fowler totally denies this. He showed us in the seed ground large quantities of such kinds as *P. insignis*, *P. Webbiana*, and *P. nobilis*, which had come up in the greatest regularity and gave promise of becoming sturdy and healthy plants. Then, again, it has been questioned whether grafted trees would stand; but here were trees of *P. nobilis*, perhaps the most majestic *Fir* of all, grafted on the Silver *Fir*, twenty years old, and as vigorous as any tree could be. The value of some of these Californian *Firs* may be seen from the fact that they stand the storms better than the Scotch *Fir*, and the storms on this coast are well worthy of the name. In one exposed part of the ground Mr. Fowler was anxious to get *P. insignis* to grow freely, and he planted as shelter for it some Scotch *Firs*; but now in twenty years' time the former has so grown as to be 7 feet in circumference, while the Scotch *Firs* are not half the size: so that both in an ornamental and economical view we may expect to see in course of time these Californian trees entering largely into the planting of some of the more favoured parts of Scotland and Ireland.

The appreciative writer in the “Quarterly Review,” No. 283, page 83, seems to have had more experience of the southern portion of our islands, and in the matter of Conifers refers with justice to the grand results obtained at Dropmore by good old Mr. Frost. He deprecates the use of *Araucarias* for avenue purposes, and in the ordinary sense of an avenue—*i.e.*, an approach to some grand residence, perhaps he is right. The Elm, the Lime, the Beech, and the Spanish Chestnut may be more suitable for such purposes, but I hardly think that he would complain of the avenue of *Araucarias* here. Evergreen trees are unsuitable for such avenues as I allude to, not merely for the reasons he gives, that “they do not possess the charms of deciduous trees, the different guise of the trees in summer and winter, in and out of leaf,” but there is an amount of sombreness about them all which would lead one in such a case to imagine you were entering a cemetery rather than a private mansion. In gathering lessons from the experience of such men as Mr. Fowler and such plantations as those which

the noble owner of Castle Kennedy has taken such delight in, one must bear in mind the useful as well as the ornamental; "for in earnest matter-of-fact England a hobby retains its favour and prestige all the more permanently if it combines advantage and utility with no æsthetic and sensuous attractions;" and if it can be shown that many of these more recent introductions are not only valuable as timber trees, but also attain more rapidly the size required for such purposes, a greater stimulus must be given to their more frequent employment; and whether one has to improve a property already planted to their hand, or to plant anew for their heirs rather than for themselves, the sight of such places as the pinetum of Castle Kennedy or that of favoured Dropmore cannot but be suggestive of much that is valuable and practical.

And now coming down to smaller matters, Mr. Fowler, be it remembered, is the raiser of that very pretty novelty in *Ageratums*, "*Countess of Stair*," of which Mr. Peach wrote favourably to me. Mr. Fowler is engaged in trying still further to improve the race, and fully impressed with the requirements of the day, is endeavouring to combine with novelty of colouring dwarfness of habit, freedom of flowering, and vigour of constitution. There were thousands of seedlings planted out, and there is no doubt that from the care and skill evidenced by Mr. Fowler we may expect some tangible results, thus showing that while he can grasp such subjects as landscape gardening in its full extent, he can yet find pleasure in the improvement of so humble a matter as the *Ageratum*.

I have said but little of the parterre adjoining the Castle (shown in the engraving in the *Journal* of the 10th inst.), because, although planted with great taste, there was nothing in it but what may be seen in every large place, but the planting is so unique that it drives other matters in the background. How one could have lingered on the American valley, rejoicing in the foliage and the few *Kalmias* yet in bloom, and picturing to one's mind what it must have been when *Azaleas* and *Rhododendrons* were in their full blaze of beauty; or marked in the pinetum the various shades of green presented by the different species of *Conifers*, and thought what a picture of beauty another generation will find in these interesting grounds! But I must forbear, and have only to express my thanks to the kind friend who planned this day's excursion, and to Mr. Fowler for the courtesy and hospitality with which he received the "*Sassenach*."—D., *Deal*.

#### OTHER FEATHERED HELPS IN GARDENS.

I SAY other, because there are need of other than peewits, inasmuch as their use is limited to walled gardens. What, then, are to be the resources as to feathered helps in unwall'd gardens? This has been a trying year for gardeners in respect to birds. The season has been so hot, and that not a damp but a dry heat—not the heat following rain, but day after day and week after week, the earth baking harder and harder, and dampness utterly ceasing in grass and ditch; so that the birds, the blackbirds and thrushes and other worm and fruit eaters, have been driven to the gardens for fruit alone, as worms have failed. In gardens near to woods the inroad of birds has been unusually great; and even those who are as a rule tender-hearted and bird-lovers, have had their patience sorely tried on seeing, not one or two, but dozens of birds fly out of the fruit trees. Where fruit has been protected by nets, and especially nets fastened on rails as mentioned by J. Muir in his excellent article at page 66, July 27th, gardeners have felt safe and comfortable, but it has been woe to the unprotected. Many have shot at the birds and shot some of them. But the gun is an injurer to tree and bush; and there must always be borne in mind that, cheerful song apart, the blackbird and thrush and the rest assist the gardener during many months, while during a few weeks only they are pilferers. I sometimes fancy that gardeners and others who shoot ruthlessly can hardly be aware of the friends birds are at other times to them. But upon this part of the subject I will not say more, hoping fully to enter upon it in some future papers to be entitled "*Our Duty to our Four-footed and Feathered Neighbours*."

To return to the state of things this season. Never before have I seen the cuckoos feeding in the garden and always on the same food—viz., the caterpillars on the Cabbages. Sparrows also are great devourers of these. But—and I keep for last mention another feathered help in a garden, and that is the bantam. I happen to have a man who has worked in my garden for the last dozen years, and who, unlike his master, has a perfect hatred of animal and bird, which hatred he with

the privilege of an old servant does not keep to himself. It is always "*that dog*," with a marked and telling emphasis of dislike upon the word "*that*;" or it is "*They Pigeons*" (George's grammar is not good) "have been messing the soft water again and spilling of it." I bear all calmly, for I like strong individuality in character—it amuses me. What, however, was my surprise when the other day George delivered himself oracularly in the following words, "We must have they bantams back again, sir." "Why, George?" "Why, because the garden has got so full of slugs they eat up everything, and when the bantams was here there never was a slug to be seen." "Oh, George, then you have come at last to my way of thinking, have you?" "Well, yes, sir; but the bantams must only be few, and let out during part of the year only an hour before their bedtime: then they do great work and pick up the slugs." There is truth in this, for many bantams would do observable harm by scratching, but with few the good entirely overbalances the little damage done by the busy feet.

A cat is often very useful in a garden, and I have known one regularly chained on a Strawberry bed for the protection of the fruit. Puss did not in the least object to being there, and had her box to go into in case of rain.—WILTSHIRE RECTOR.

#### ROYAL HORTICULTURAL SOCIETY.

As a country horticulturist I regard the position of the old Society more hopefully than I have done for some time past. In that I may be more sanguine than many. I have read the reports of the recent meetings, the general tone of which appears to have been very reassuring. As "*heated arguments*" and general recriminations are most damaging to any institution, so, on the other hand, sober deliberations have a powerfully beneficial effect. The Society has been racked by conflicting interests, and weakened by passionate advocacy of the policy in which either party was interested. It has been composed of elements that would not blend, and time and money have been wasted in seeking for that which is unattainable. The present Council have recognised this, and they appear to be convinced that the claims of horticulture on the Society which they represent can only be met by the divorcement of the Society from South Kensington. In that they appear to have almost the unanimous concurrence of horticulturists. In a word the Council are trusted, and their policy is generally confirmed as the right policy by all who desire to see horticulture flourish.

Horticulture cannot flourish without a strong, firmly established, and authoritative head. That head is, or should be, the Royal Horticultural Society. At present it is weak, as many believe by its unfortunate alliance, and the sooner a separation can be effected the better will it be for the Society, and the better also in all probability for the district which is known as its head quarters. There may be, and doubtless are, difficulties in the way of a separation from South Kensington being effected, but surely we may hope that no unnecessary impediments will be placed in the way by the Royal Commissioners, and no conditions will be imposed which cannot be borne by the Society. It should be remembered that the connection with South Kensington was effected primarily for the advancement of horticulture, and had the illustrious Prince who commended and supported the amalgamation been happily preserved to the nation, in all probability the union would have been a happy and a prosperous one. Under his patronage and guidance the Royal Horticultural Society would have been made to flourish, simply because that was the primary object of the amalgamation.

The great end in view was not the establishment of a fashionable garden as such—an enclosure for the gratification of a locality—but for the well-being of the horticulture of a nation. That was the end, aim, and object of the agreements entered into with the Royal Commissioners, and the objects are the same now so far as the representatives of horticulture are concerned, but they remain unaccomplished. The policy of the past has failed, the object sought is not achieved, and further efforts are necessary to promote the success of that which was the principal aim of those by whom the present constitutional alliance was projected. The object being still unaccomplished, it behoves all concerned to seek some other way of accomplishing it. The horticulturists as a body have representatives in whom they can trust, and these representatives, as I and many others understand the matter, have not and cannot anticipate the antagonism of the Royal Commissioners, but have a substantial and legitimate claim on their co-operation and assist-

ance. As it appears to me, the Royal Commissioners have in trust the welfare and keeping of the Royal Horticultural Society, and they have endeavoured to carry out that trust, but from (it may be, and probably is) no fault of their own have failed to guide (in conjunction with horticulturists), the Society to a prosperous position. Now when the horticulturists in a united body conclude that the Royal Horticultural Society will be benefited by a separation from their responsibility at South Kensington, it seems only just and equitable that they should have the aid of the Royal Commissioners in carrying out what was the fundamental object of the union of Chiswick with South Kensington. Doubtless it was considered that the Society would have flourished, and the gardens at South Kensington would have been perfected for the promotion of horticulture generally, and for the enjoyment of the dwellers in the "Court suburb" particularly; but when it is found that this double function is not attainable, the question is arrived at, Is the welfare of the horticulture of the nation to be sacrificed for the pleasure of the community of a district? Surely there can only be one reply to that question.

For some time past the dwellers in the country have felt that they did not possess a Society worthy of their support, seeing that the funds subscribed for the advancement of horticulture were in a great measure devoted to the keeping of the gardens of South Kensington. Those gardens are doubtless an attractive feature of the district, but beyond affording convenience for meetings and shows they have not, and it appears to me cannot, benefit horticulture or strengthen the Society. Since the late meetings and the financial statements which have been submitted, it is more than ever certain that country horticulturists will not sink their subscriptions in South Kensington.

Had the Council of the Royal Horticultural Society only the cost of the gardens of Chiswick to provide for, and possessed rooms in London for the committee meetings (which are most important), their shows could be made moveable, having them in different parts of London, and occasionally in the country (a guarantee fund being duly provided); then would the Society be regarded as a real Royal Horticultural Society, and funds would be forthcoming for the promotion of the art in which so many are interested. The suggestions on this point which have been made by Mr. G. F. Wilson are highly worthy of notice, for it is not by the patronage of a select few that the Society can be made prosperous, but by the great body of horticulturists casting their mites together into a common fund for a common purpose will adequate support be provided. These I know are the views of more than one—HOPEFUL COUNTRYMAN.

### COTTAGE GARDENING.

THE annual Show of the Hawarden Amateur Horticultural Society was held on the 15th at Hawarden, and the prizes were distributed in the evening by Mrs. Gladstone.

In responding to the vote of thanks to Mrs. Gladstone for presenting the prizes the ex-Premier said—The trouble is that the circle of topics opened up by a flower show is not a very large one, but at the same time it is one which anybody may be very well contented to treat. There is not a better nor a more wholesome and salubrious village institution in the whole round that can be named than a flower show. In the first place, it is one of those independent institutions which teach the people to exert themselves, and you may depend upon it that man is not a passive and mechanical being. You don't train a man as a plant; he is a moral agent, and if any good is to be done to him or to any woman or child—and I am delighted to see how many young boys and girls have come forward to obtain honourable marks of recognition on this occasion—if any effectual good is to be done for them, it must be done by teaching and encouraging them and helping them to help themselves. As to the people who pretend to take your own concerns out of your own hands and to do everything for you—I won't say they are impostors—I won't even say they are quacks, but I do say they are mistaken people. The only sound healthy description of countenancing and assisting these institutions is that which teaches independence and self-exertion. There is no better kind of exertion than this. It is good for your health, good for your independence, because, though a garden is not a very large thing in the life of a cottager, it is a very considerable element of independence, as well as of comfort, pleasure, and satisfaction, when well managed and of proper size. It makes a sensible addition to his means of living, and for my own part I sometimes hope you, many of you, may live to see the day when there will be no such thing in this country as a cottage without a garden. I rejoice to think that gardens are increasing. We have said before, and I may say now, on my son's part as well as on my

own, that it is our desire to see them increase here. It is not always a very easy thing to make new divisions of land, because, unfortunately, when a bit of land is given to one it very often is taken from another. Land is not a thing that can be manufactured. If we could manufacture it we would make larger gardens, and have gardens for everybody; but as opportunity offers I am glad to think there is every disposition to make them universal. Your independence, your health and comfort, will be thus promoted, as well as neighbourly assistance, good fellowship, and pleasant meetings of this kind, where we are all met in good humour. We come to know one another better, and I hope we come not to like one another worse.

But let me tell you one word more, something more grave than serious, but I hope not sorrowful. When you cultivate the plant that grows from the ground you cannot help thinking a little who He is that makes that plant to grow. When I say you should help yourselves—and I would encourage every man in every rank of life to rely upon self-help more than on assistance to be got from his neighbours—there is One who helps us all, and without whose help every effort of ours is vain; and there is nothing that should tend more, and nothing that does in the well-constituted mind tend more, to make us see the beneficence of God Almighty than to observe the beauty as well as the usefulness of those flowers, those plants, and those fruits which He causes the earth to bring forth for our comfort and advantage.

Now, as I have said before, it is unnecessary and hardly a possible advantage to detain you any longer on an occasion of this kind, but I am very confident that these few words I have spoken are true words, and I believe they will find an echo in your minds, for I must say that the best test of reception of such sentiments is in the zeal and diligence with which the people of this parish have supported this institution and have come forward to claim these prizes. It is to my wife, to me, and to all of us a matter of the liveliest, and I may say intense, satisfaction to see how this institution, which we owe in a great measure to the energy and judgment of Mr. Spencer, has taken root, and is itself, I may say, one of the fairest and most flourishing plants of all those that have sprung up out of the ground. I hope that it will continue to flourish. It is still young. Let it grow stronger and stronger every year. Let us have more and more of the parishioners of this large and growing parish coming forward and competing for these prizes. No enemy will grow out of it—everybody will rejoice in his neighbour's success almost as much as he would in his own. You will all be better for the zeal and energy with which you give yourselves to these useful and healthy pursuits and the support of this beneficent institution.

### NEW BOOK.

*Botanical Reminiscences in British Guiana.* By RICHARD SCHOMBURGK, Dr. Phil. Adelaide.

THIS is a very amusing record of a journey in British Guiana. It contains details of the manners of the people, but we shall confine our extracts to some from the pages relative to the botanical productions.

"Having passed in the course of the day several small tributaries of the Barima, its bed became narrower and more winding, so much that our progress was more slowly. The banks increased in height, and the vegetation became more luxuriant until, with the appearance of that gigantic tree of the Mora excelsa, *Benth.*, which may be called the Oak of the tropics, it reached its culmination. There is none of the European forest trees which could be paralleled with it as a representative. Our large Oaks would only seem dwarfs if standing near one of these giants, the stem of which is overshadowed by the most beautiful dark green foliage. The Indians give this noble tree the name of the 'Chief of the Forests,' and this is the most appropriate name which could have been chosen.

"We were often deceived by these giant trees when we suddenly rounded one of the bends of the river, imagining we saw before us in the distance a number of wooded hills, which, when nearer, changed into single groups of Mora trees, towering high above the surrounding vegetation.

"No idea can be formed of a Mora forest; it is so thick that the sight of heaven is denied to those who enter it. Everything is drowned in a mass of shadows; the eye can only behold a labyrinth of trees of gigantic proportions which astonish and overawe him, garnished with a dome of foliage that darkens the atmosphere, and renders it intolerably heavy and gloomy. Lanes of immense thickness entwine with giant arm these trunks, and ramp to the highest branches, where they crown these giants; then again grow down from this giddy height on to the smaller trees, the branches of which they entwine, and so fetter one tree to the other, with a network, and hold in their strong arms those giants standing close on the banks of the rivers, whose secure position is often undermined by the rapid streams, thus preventing their sudden fall; but should such a



giant succumb, by his fall he will carry all the trees entwined by the same lianes with him to destruction.

"The importance of the Mora for the marine, which my late brother had already pointed out in his first travels, has been confirmed since. On the upper Barima this valuable tree is found in such numbers, and of such immense size, that the trees growing near the banks of the river alone would be sufficient to supply a whole fleet with material. The wood is so close and cross-grained that it is difficult to split it; it is considered by the most competent judges to be superior to Oak, as it is not subject to the dry rot.

"With the appearance of these giants the vegetation near the banks assumed a new character—trees, flowers, fruits, not before seen surrounded me. Amongst these new forms were magnificent flowers of the *Brownea racemosa*, Jacq. I fear no artist is born yet who could produce on paper what Nature has lavished on this dazzling favourite of hers. The elegant form of the pretty tree, by the brilliancy of its foliage, the abundance of large, indescribable, tenderly formed flowers glowing with such dazzling colour that the eye can scarcely bear their sparkling fire; every part combines to captivate admiration—even when the flowers have disappeared the large red legumes offer a pretty picture.

"Although the *Brownea* belongs to quite a different order of plants, and its flowers differ from those of the Rose, I cannot find a more appropriate name for it than "The Rose of the Tropics." The large wax-like white flower of the *Gustavia fastuosa*, Willd. and *Clusia*, increased the preponderating charm. The banks bordered with the 60 to 80 feet high wall-like vegetation, which could be compared to a gigantic clipped hedge, over which hung down in festoons the blue flowers of *Petrea volubilis*, Jacq., and *Schomburgkii*, Schau., also the beautiful red flowers of the *Cacotia coccinea*, Aubl. Nature had even coveted the branches of the gigantic trees, on which numberless Orchids, Tillandsias, Ferns, and Aroids luxuriated, from which the last mentioned suspended to the ground their rope-like roots, resembling the cordage of a ship.

"The *Vanilla*, *V. planifolia*, Andr., and bicolor, Lindl., already seen in the lower part of the river, appeared here more frequently, and filled the air, especially in the morning and evening hours, with the aromatic fragrance of its flowers. The plant climbs in a straight line up the trunks of the trees, fastened to the stem by its air roots, their handsome leaves spread symmetrically. Thus it grows from branch to branch, again it descends and strikes roots in the ground, and ascends again. Although the monkeys consider the long, fleshy capsules a great delicacy, we found a large number of the fruits."

"At a small distance from the mouth of the river Pirara, near the bank of the Pirara, we found a gigantic Maran-tree, *Copaifera Jacquinii*, Desf., which showed on its large trunk by old and fresh marks how often the balsam of the tree had been gathered, the entire absence of underwood proving that this spot had been used as a camping place, and it served us for the same purpose.

"To collect the balsam of the *Copaifera* the Indians make a half round excavation in the lower part of the trunk, which extends to the heart of the tree. In certain months, especially in February and March, the resinous juice flows in large quantity and fills the excavation, which from time to time is emptied. We found the hollows full of the balsam, and great numbers of wasps and bees collected around it, which no doubt use the balsam as a cement for their nests. Except for wounds and for the purpose of anointing their body and hair the Indians do not use it for any other purpose. They collect it because it forms an article of barter very much sought for by the Brazilians, and is collected without much trouble."

"On the banks of some rivulets which we crossed in the afternoon appeared again a shrubby vegetation. The pleasure was heightened when these shrubs were seen covered with flowers which I had not met with before; they belonged to the orders of Proteaceae and Ternstroemiaceae, and were the first representatives of the very interesting genera *Rhopala* and *Ternstroemia*. The whole air was perfumed with the Vanilla-like fragrance of the *Rhopala complicata*, Humb. and Bonpl. This interesting genus appears at an elevation of 1200 to 1500 feet above the level of the sea, although I found the *Rhopala nitida*, Rudge, in the neighbourhood of Pirara. The *Ternstroemia* proved to be a new species, *T. rubicunda*, Klotzsch. Small trees of a Humiriaceae and shrubs of the peculiar odoriferous *Antonia pilosa*, Hook., changed with the above-named plants, and formed an interesting border along the banks of the rivulet. An oasis through which it was flowing invited us to fix our camp near it. I detected some new forms of plants, to which belonged the *Hyptis membranacea*, Benth., with its tender light blue lip-shaped flowers and green calyx, which, according as the rays of the sun fell on it, changed from green to white and to pink. The leaves of this magnificent tree, which reaches a height of from 30 to 40 feet, emitted a strong aromatic smell. Its wood is very hard. This is undoubtedly the only tree-like Labiate indigenous in British Guiana. Mr. Gardener, the well-known

traveller and botanist, found this species also in Brazil in the diamond district, Minas Geraes, near Cidado do Serro, as one of the most common trees; its distribution, therefore, seems to be over a large area in South America. A new *Swartzia* and *Rhopala*, *S. capparoides*, Klotzsch, and *R. suaveolens*, Klotzsch, I found also here."

"Enraptured with what we had seen through the beautiful magic garden of flowers, we were especially interested by seeing large trees of the *Ladenbergia*. At the Humirida Mountains, in an altitude of 3690 feet above the level of the sea, we found them only as shrubs, here we met them as trees.

"No other order of plants could probably show a more abundant literature than the Cinchonae, and yet the knowledge of the geographical distribution in South America of this valuable tree is very limited, as every new traveller has added other discoveries.

"Many are the causes ascribed to the discovery of its wonderful effects of alleviating the sufferings of humanity. No doubt assertion made in proof of it belongs to the region of legends, by which generally an important discovery is accompanied. According to Geoffroy, an Indian afflicted with fever drank out of a pool into which had fallen trees of the fever bark, and by drinking had been cured of his illness. According to Condamine (although he himself doubts the truth of it) the American tigers, the pumas, were the first that drew the attention of men to it, because these animals, which are supposed to be attacked by fever, cured themselves by gnawing the bark of the *Cinchona* trees. Some of the oldest authors assert that the Indians were acquainted with the qualities of the bark before the arrival of the Spaniards; while others again maintain that they did not know its valuable quality.

"It has been proved by later travellers, especially through Alexander Humboldt, that the discovery of the bark as a medicine belongs to the Europeans, and not to the natives of South America. Just as unacquainted as the great traveller found the Indians with the qualities of the bark did my brother in his first travels, and even now we found this the case with the *Arekunas*, who lived in the *Cinchona* region. We gave the Indians, when we found them suffering from fever, quinine, and gained lasting gratitude for it, while a few steps from their sick bed the source of the remedy was growing in luxuriant abundance."

## THE HOLLYHOCK.

THE Hollyhock takes such a high position amongst autumn-flowering plants that it is scarcely necessary to speak in its praise. I can add without fear of contradiction that no other plant grown combines the qualities suitable for shrubbery and border decoration to the same extent as the Hollyhock. It is easily cultivated, requiring only a little protection through the winter—a few coal ashes shaken over the crowns and removed in early spring being all that is required.

It is generally propagated either by seed (and seedlings make the best plants), or by cuttings—single eyes taken off in August and inserted in light soil in pans well drained and plunged in a frame in leaves or tan, so as to have the assistance of a little bottom heat. This is a quick method of working-up a stock. Give air as required when the eyes have made a little growth, and when they are sufficiently rooted pot the young plants singly in 3-inch pots, and replace them in a close frame for a few weeks, and when the pots become full of roots give the plants a shift into 6-inch pots, using one-half of rich loam, one-fourth of well-decayed manure, and one part of leaf soil, with a good admixture of silver sand, all well mixed together. At this stage the plants may be placed in a cool pit or frame for protecting them through the winter, admitting plenty of air on all favourable opportunities. They will be ready for the open ground in spring.

To increase by seed, the seed should be gathered early in the autumn from the most double blooms of the finest shape and colour. Sow it in pans, and give the seedlings the same treatment throughout as plants from single eyes. I have practised this mode of culture and have found it most satisfactory.—J. HOBBS, *The Fernery, Kent*.

## HYACINTHUS CANDICANS.

Now that the tide of popular favour is again flowing, we are glad to say, in the direction of the mixed border and the cultivation of choice hardy flowering plants, a new and really good plant in that way cannot fail of a welcome and due appreciation. Such unquestionably is the beautiful *Hyacinthus candicans*, incidentally alluded to last week as being in flower in the open border at Glasnevin, and of which it is now proposed to speak more specifically. In the first instance, we must ask our readers to disassociate it altogether, so far as regards

its aspect, from the Dutch or other ordinary border Hyacinths. In fact, the consanguinity is, as regards aspect and appearance, scarcely to be suspected. This will be understood when the reader is told that Hyacinthus candicans has Crinum-like glaucous leaves from 2 to 2½ feet long, and broad as those of Crinum capense, that the stout flower scape rises straight as a gun barrel to the height of 3½ to 4 feet, and the topmost foot or 18 inches decked with large pendulous bells of exquisite form and purest white, except a slight tinge of green towards the base. The flowering period is very prolonged, indeed some six weeks or more, the flowers being produced in succession as the spike elongates. This aptly termed "colossal Hyacinth" is admirably figured, and, what is more, truthfully depicted, in last year's volume of the "Flore de Serres." It comes to us from Natal, and is perfectly hardy. Moreover, the very moderate figure, between 3s. and 4s., at which fine flowering bulbs are obtainable, places it within the reach of all lovers of fine hardy border plants, and to the notice of all such we strongly recommend it. As a pot plant for house culture it would, we should say, be singularly striking and effective; and further, there does not appear any reason to doubt it being an excellent subject for early forcing or its amenability for the purpose. With regard to the freedom or otherwise with which offsets are produced, and the plant thereby multiplied, our too brief acquaintance with it does not enable us to offer an opinion.—(*Irish Farmers' Gazette*)

#### SIR J. PAXTON STRAWBERRY.

As several persons have spoken against this Strawberry I should like to state a little on the other side of the question. I think it undoubtedly one of the best Strawberries in cultivation for a dry soil. The fruit this year has been very fine, [the quality first-rate, and the crop very good.

I have seen it classed in some catalogues as an early, in some a midseason, and in others a late variety, but it is properly classed as a midseason variety. A few of the berries began to colour this year as early as Keens' Seedling, but the fruit does not ripen off so quickly—in fact it is a slow ripener, and that is a very desirable quality if you have a good net over the beds; for if you do not happen to want the fruit you can leave it. I left one bed for more than a week after the fruit was ripe, and when gathered it was of fine quality; but it must be remembered the weather was dry.

Last season was the opposite of this, but Sir J. Paxton stood the continual washings of rain as well as any other variety.—*AMATEUR, Cirencester.*

#### FRUIT-GROWERS' ASSOCIATION OF ONTARIO.

The following are extracts from the President's address, and from some of the members' notes:—

We question if ever fruit-growers had to contend with more malign influences than those which have prevailed during the past winter. The season was exceptionally severe, and some noticeable and remarkable effects resulted to almost all vegetation from its severity. The Apple, Pear, Plum, Cherry, and Grape suffered greatly. There are few horticulturists but have to lament the destructive inroads made on their orchards. Scarcely an orchard escaped the biting blast. It matters little the aspect—trees on southern slopes suffered as much as those on northern exposures. Nor were other varieties of trees exempt. The hardy Oak, the luxuriant Maple, the stately Pine, and the lowly shrub alike suffered, and this not in one district, but almost everywhere. Confessedly hardy varieties were more injured than certain others that were previously known for their tenderness. Philadelphia Raspberry was cut down, while in its neighbourhood the hornet stood the winter pretty well. Grape Vines in southern exposures were scathed, while the same varieties in northern aspects passed through the ordeal scatheless. The strangest and most paradoxical results have been noted. Important lessons follow. At Drummondville we learn that the mulching of the tender varieties of the Peach had preserved them. In fact, the severity of last winter has abundantly taught the beneficial results of mulching. Trees well mulched suffered comparatively little—left exposed they scarcely survived. The practice of mulching must soon become general, and this both in winter and in summer. In winter it is needed to protect against the withering cold, in summer as a shelter against the intense heat. My own experience is strikingly illustrative of the benefits of mulching. For years I mulched either with manure

or turf—for the last two years I have applied fertilisers in both cases on the surface. During the past summer and spring branch after branch of my beautiful and fruitful Pear trees have gone. My occupation has largely been to trim off great quantities of blighted limbs, and the evil I fear is not over yet. I propose to return to my old mode of culture, and mulch both in winter and in summer.

In a part of my front green I have purposely kept the ground free of weeds and grass. Every tree on this particular plot has suffered; my Pear trees have actually died out, and my Apples have greatly suffered. I intend in the spring to sow grass seed or Clover to protect the roots of my trees. After all, there is something in this grass theory and practice. I am satisfied that a good crop of weeds has something to do with a good growth of wood, and with the fertility of fruit-bearing trees. Some manure which I once employed as a top-dressing was full of groundsel seed. A luxuriant crop of what was esteemed a noxious weed was the consequence. Not a single bough, however, blighted, notwithstanding the luxuriance. Thinning it proper and right, I got rid of the groundsel, and have for these two years kept my ground clean but undug. This tidiness on my part has been further carried out by an orderly and painstaking workman, who raked into heaps every bit of bark, bone, pruning, old shoes, rags, &c., which offered a certain kind of mulch, and thereby left the ground bare and clean. The result, come from what cause it may, has satisfied me that trees like a little roughness. Forests mulch themselves. Mr. Saunders of London can tell a somewhat similar tale, or rather his grounds do if he won't. Having recently visited his fruit farm, I can testify that even a grass mulch is unmistakably beneficial, and highly subverses the interest of the horticulturist. Among trees on cultivated land there is at London a very high per-centage of deaths; in the same varieties grown under grass in the same, nay, almost the immediate position, the per-centage of deaths is not a tithe. This speaks volumes for mulching; indeed, mulching is a great necessity. At Ottawa in June last I noticed in Mr. Bucke's garden that the canes of his Raspberries were scarcely touched. In attempting to account for this I found that he had been attending to first principles, and that his Vines were and had been growing under a course of very heavy manuring.

We have noticed that good hybrids are less liable to be attacked with blight than imported varieties. Crosses are yet to be made which will combine hardihood with quality. Our hybridists are on the track. Skill and delicate manipulation will yet accomplish their wonders. We are only on the threshold of great discoveries in hybridisation. Facts are becoming more and more patent which show the wonderful influence of the stock upon the scion. Stocks ought to be selected with the greatest care. That any stock will suffice is an idea that happily is becoming exploded among fruit-growers. Were testimony to be desired as to the effect the stock has upon the scion, it is not wanted to those who have noted the disastrous results of the past winter. Take for example the Cherry. Cherries worked on the Mazzard stock have in most cases been killed outright, while those on the Mahaleb, standing in close juxtaposition, have in many instances escaped. The Mazzard cannot be compared to the Mahaleb as a stock. Were growers to order trees on the Mahaleb stock they would not suffer so severely as they have done from the severity of winter. Mr. Saunders' Cherries on his farm in the neighbourhood of London have almost all suffered that were on the Mazzard; those on the Mahaleb, while showing symptoms of having suffered, are comparatively uninjured contrasted with those on the Mazzard. What is true of the Cherry on Mahaleb and Mazzard stock is equally true of Pear stocks. Some varieties of stock are naturally dwarfish of themselves—in their own nature—and some are rampant growers. These differences are to be found in the smallest quantities of Pear stock. I have a Lawrence on the Pear stock, which has the diameter of the stock double that of the scion. The consequence both of the growth of the wood and of the fruit is that it far exceeds its neighbours both in wood-growth and in fertility.

The art of hybridising requires some knowledge of botany and a little delicate manipulation. The female is usually chosen for its qualities as a plant, the male for that of the fruit; because it is found the former takes after the mother, the latter after the father. These being selected by the experience of the cultivator, the first process in hybridising is to open the flower just before it would naturally do so of itself, and remove the little cap that covers the pistil with a pair of forceps, then take away the male organs or anthers. So soon

as the flower buds selected are thus prepared they must be enclosed in a paper bag until properly suited for the application of the pollen. This may be from one to two days; but sometimes, if the buds are very far advanced, they may be acted on immediately, and again a few days afterwards, which will increase the chances of success. Care must be taken to keep

easy. The tuber only needs to be planted in a mixture of loam, peat, and sand in the spring and be placed in a genial temperature, when the plant will grow freely, and in due time flower profusely. It is most attractive for conservatory or room decoration, being remarkable for its elegance and in being quite distinct from other plants with which it is likely

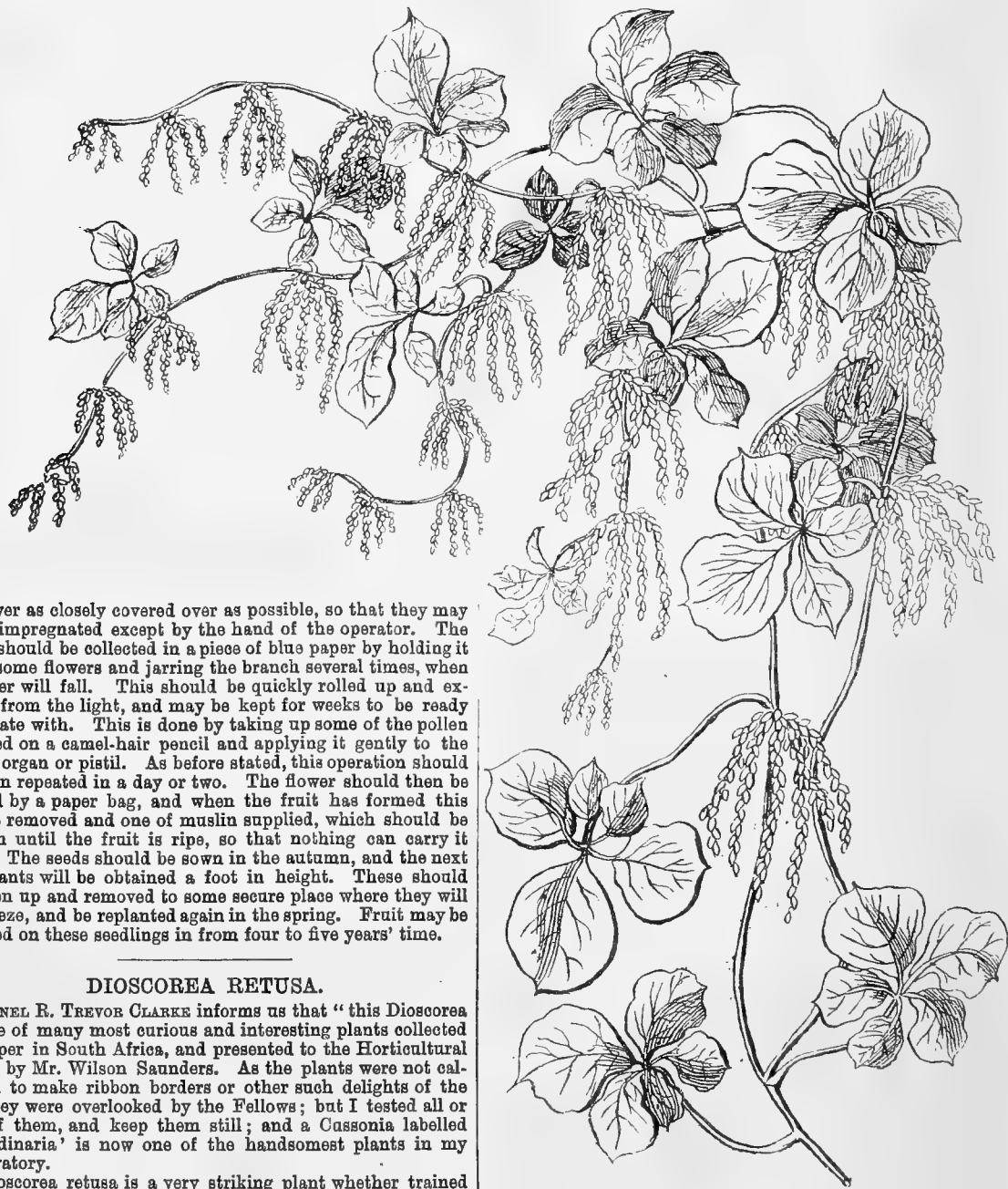


Fig. 19.—*Dioscorea retusa*.

the flower as closely covered over as possible, so that they may not be impregnated except by the hand of the operator. The pollen should be collected in a piece of blue paper by holding it under some flowers and jarring the branch several times, when a shower will fall. This should be quickly rolled up and excluded from the light, and may be kept for weeks to be ready to operate with. This is done by taking up some of the pollen collected on a camel-hair pencil and applying it gently to the female organ or pistil. As before stated, this operation should be again repeated in a day or two. The flower should then be covered by a paper bag, and when the fruit has formed this may be removed and one of muslin supplied, which should be kept on until the fruit is ripe, so that nothing can carry it away. The seeds should be sown in the autumn, and the next year plants will be obtained a foot in height. These should be taken up and removed to some secure place where they will not freeze, and be replanted again in the spring. Fruit may be expected on these seedlings in from four to five years' time.

### DIOSCOREA RETUSA.

COLONEL R. TREVOR CLARKE informs us that "this *Dioscorea* was one of many most curious and interesting plants collected by Cooper in South Africa, and presented to the Horticultural Society by Mr. Wilson Saunders. As the plants were not calculated to make ribbon borders or other such delights of the day, they were overlooked by the Fellows; but I tested all or most of them, and keep them still; and a *Cassonia* labelled 'Testudinaria' is now one of the handsomest plants in my conservatory.

"*Dioscorea retusa* is a very striking plant whether trained parasol-fashion in a pot or allowed to climb and ramble as a conservatory ornament, with its Hop-like aspect and pleasant fragrance. It seems to require a warmish, or so-called intermediate, house, to show its full capabilities, although in effect it is hardy, or nearly so."

We may add that this plant was exhibited in splendid condition by Messrs. James Veitch & Sons at the Great International Exhibition at Brussels, and perhaps no plant was more generally admired. As occupying the central position in the rich group of Orchids, &c., its appearance was most striking; its graceful habit and distinct pendulous racemes having a fine contrasting effect with the more highly coloured plants by which it was surrounded. The cultivation of this plant is very

to be associated. After the plant has flowered it may be placed in a sunny place in the open air to mature its tubers, and be started into growth again early in spring.

It is a plant which is likely to become popular, and is well worthy of notice as a distinct and ornamental summer decorative plant.

### DEATH OF MR. PEARSON OF CHILWELL.

HORTICULTURE has sustained a severe loss in the death of Mr. John R. Pearson of Chilwell. The sad event took place on the afternoon of Monday the 14th inst., at his own house

at Chilwell near Nottingham, where he has for some months been suffering from a long wasting illness.

Mr. Pearson was born in the house where he died on the 29th of January, 1819, and was consequently in his fifty-eighth year. Although the three last generations only were nurserymen, the family have been resident in the parish between three and four hundred years, the earliest record of them being in the registry of the parish of Attenborough, in which Chilwell is situated, in 1527. Mr. Pearson's grandfather, born in 1752, was the first of the family who appears to have been a nurseryman. He was a great florist, and had what was considered one of the best collections of Tulips in England at the time. The Polyanthus and the Picotee were also among his favourite flowers, and he raised Pearson's Alexander Polyanthus, said to be the best ever sent out. To him also is attributed the origin of Pearson's Plate Apple and Pearson's Prolific Nut. He was buried in Beeston churchyard, and a stone there commemorates the resting place of "John Pearson, Nurseryman." Though the father of this John Pearson, and great-grandfather of our subject, lived in the same village in a property still belonging to the family, there is no evidence that he was a nurseryman, and we therefore infer that the grandfather was the founder of the Chilwell Nurseries.

There are documents in existence which show that the ancestors of the present family were possessed of lands in Chilwell in the time of Cromwell, and there can be no doubt that some of the Pear trees which still exist in the extensive orchards still belonging to the family are of very great age, for both Mr. Pearson and his father (who was born in 1779), used to say that they had not visibly increased in size during their lives.

It was in the year 1843, two years before his father's death, that Mr. J. R. Pearson succeeded to the nurseries at Chilwell. Even then they were among the most noted of provincial nurseries, but it was mainly through the energies of Mr. J. R. Pearson that they were so greatly developed that at the time of his death they are among the most extensive and important in the country. With him his profession was his delight, though he originally had a preference for the law. The way his father led him on to horticulture was by building him a greenhouse to give him a taste for plants. This had the effect; and while that was the first glass structure ever seen in the grounds, there are now twenty-five of those large handsome structures which have been the theme of many a subject in horticultural literature. Whatever Mr. Pearson did, he did it well and thoroughly, and he brought to bear upon it the powers of a highly educated and intellectual mind, which penetrated the most minute details of the establishment, and not only guided and directed but influenced those around him. Whatever Mr. Pearson said, did, or wrote, had a cast of originality about it, and his way of handling a subject was sure to attract attention by the air of novelty which appeared to surround it. The pages of this Journal have for many years been enriched by his literary communications, which were invariably of the most sensible and practical description. Mr. Pearson rarely dealt in theories, his mind was too observant to allow facts to escape him, and it was upon facts he chiefly relied. All the papers that have appeared in this Journal testify to this; and so striking often were the subjects he discussed or originated, that they invariably attracted attention and set others thinking in a train in which they never thought before.

Of late years Mr. Pearson's attention has been mainly given to the improvement of Grapes and of the class of flowers known as Scarlet Geraniums. On both of these he did not enter as many do at haphazard, but he set about his work systematically and with the intelligence with which he was endowed. In his endeavour to obtain new varieties of Grapes, for instance, he was not content merely to save the seeds of existing varieties and from these to raise seedlings, but he carefully introduced into the commonly cultivated varieties the elements of a new race altogether, and thereby infused into the Vine of the eastern hemisphere the characters of that of the western. By hybridising the Royal Muscadine with pollen of the Strawberry Grape he succeeded in raising that exquisitely flavoured Grape Ferdinand de Lesseps, and that in its turn has served as the parent introducer of new flavours into other seedlings he has raised. Ferdinand de Lesseps was first exhibited in 1870, when it unanimously received a first-class certificate of merit from the Royal Horticultural Society. In the same year he exhibited Chilwell White, which also received a similar award. This was in

almost every respect a white form of the Black Hamburg. In 1871 he raised the large black varieties named Abram Bass, Chilwell Alicante, and Emperor of Morocco, all of which were excellent in flavour, but of which we have not heard much since. In the same year he exhibited a fine, large, white Grape with a Frontignan flavour, which he named Dr. Hogg, and which received a first-class certificate. The parent of this was Duchess of Buccleuch; and while it has the large, tapering, and well-shouldered bunch of its parent, the berries are larger than those of any round Muscat Grape, with a richness of flavour equal to that of Chasselas Musqué. In 1873 Golden Queen was first exhibited and received a first-class certificate. It was raised from Alicante fertilised by Ferdinand de Lesseps, and is a remarkably richly-flavoured, oval-shaped, amber-coloured Grape. In 1874 appeared his crowning triumph in Grape-raising, and this was appropriately named Mrs



Fig. 20.—Mr. J. Royston Pearson.

Pearson. The origin of it is the same as that of Golden Queen, and it at once was awarded a first-class certificate for the large and handsome bunch, and the exquisitely rich flavour of the berries left not a moment of hesitation on the part of the Committee when they made the award.

Mr. Pearson's own account of his work in raising new Grapes is as follows:—

"Some years since, hearing that the native Grapes of North America enjoyed a comparative immunity from the attacks of mildew, I resolved to cross one of them, the 'Strawberry,' with our hothouse varieties. I raised about a hundred seedlings in this manner, using in every case the Strawberry as the female parent. Many of my friends will remember the interest this experiment excited at the time from the extraordinary character of the foliage produced.

"The 'Strawberry' Grape has small woolly leaves, very little cut, indeed nearly heart-shaped; the seedlings were all deeply cut, some of them small, and some of immense size. I remember the Rev. C. P. Peach of Appleton-le-Street, Yorkshire, asking me for a leaf as a curiosity, which was inches bigger in diameter than a page of the *Times*. The fruit of these seedlings varied as much as the foliage, being of all colours, and I may add of every degree of nasty flavour, except one or two which were golden in colour and very sweet. Of these I chose one only to keep, which was exhibited in London, August, 1870, and received a first-class certificate as 'Ferdinand de Lesseps,' and I think richly deserved it, not so much as a new Grape as a new fruit altogether. With me it is a strong grower, a most abundant bearer, and of a beautiful golden colour. The fruit being scented with Strawberry, and tasting like barley sugar flavoured with Pine Apple according to some, and like new honey according to others, is totally unlike any other known Grape.



"Here was at least a great curiosity, a pretty scented fruit, which few with their eyes shut would take to be a Grape. But everyone does not like barley sugar, or new honey either, and then, unfortunately, the berries were little larger than those of the Frontignan, and the bunches scarcely so long, and though 'Ferdinand' found many admirers, I never recommend anyone to plant it who had not seen and tasted it.

"I next tried what the effect of crossing Ferdinand with other Grapes would give, and raised another large batch of seedlings, some also from other crosses, which were all planted together. Some of these were exhibited 6th September, 1871. From them the Committee of the Royal Horticultural Society selected one for a first-class certificate, and as the Chairman, Dr. Hogg, appeared much struck with it, I named it after him. Now I had great doubts about the value of this variety, and told the Doctor so, and also the Committee. I knew it was a seedling from the Duchess of Buccleuch, and never could make up my mind what was its other parent, or if it had been crossed at all. Knowing that all the race of Grapes, comprising Muscat, Muscadine, Chasselas Musqué, and Joslin's St. Alban's, which were the result of a cross between the Muscat of Alexandria and Royal Muscadine, to which the Duchess of Buccleuch belongs, were, though very high flavoured, dreadfully subject to crack, I feared the same might be the case with mine, and never would recommend it to anyone. Besides growing in a north border of a Geranium house, it never was very well ripened, and appeared not to retain its high flavour after it was ripe. With these ideas I let anyone who chose to have it take it at 10s. 6d. a plant, and as may be imagined, made little of it. Now, when it is out and in other hands, as many no doubt have heard, it is proving one of the best Grapes in cultivation. With me it has never cracked a berry, and whilst quite equal in flavour to the Duchess of Buccleuch, it is twice the size, bunch for bunch. While such men as Spencer, Speed, Dr. Hogg, Woodville, Fetch, &c., are praising it as one of the best new Grapes—indeed Mr. Fetch says, the best new Grape—I have the satisfaction of feeling I gave it away; never mind if I made money by it and everyone abusing it, I should have found that harder to bear than my friends' laughter now.

"Coming now to the 'Golden Queen,' it is a seedling between Ferdinand and Lesseps and Black Alicante. It fruited for the first time in a pot standing on the border of my Fig house. Finding it had made a root through the bottom of the pot, I broke the pot to pieces and hilled-up the ball with fresh soil. No one expects a Vine that has fruited in a pot to do much the following year, but to my surprise this carried thirteen bunches, perfect in every respect.

"The bunch and berry are exactly alike in shape to the Madresfield Court, but in colour is a bright gold. The flavour is that of a Muscat of Alexandria without any of the aroma peculiar to the Muscats, being, in fact, a rich, fleshy, sweet Grape. The foliage shows its hybrid origin, being strong, dark-looking, and feeling to the touch more like that of a Fig than a Vine. The wood is a bright cinnamon in colour, and taking fruit and Vine together, it is perhaps the most beautiful Vine ever seen growing. From the large amount of water used in the Fig house and the little heat employed, mildew attacked most of the Vines in the same house, but the robust foliage of this variety appeared almost mildew-proof. Lastly, only two kinds under these unfavourable circumstances were really ripe in the house, and the Golden Queen was one of them: many have only half ripened their wood, and the thinnest shoots of this are as dark in colour and as hard as the thickest.

"The Committee which awarded it a first-class certificate was the largest I ever saw sit at Kensington, and I am told there was not a single opponent, and on my rejoicing the Committee I was not only congratulated but received a number of orders from some of the best judges at the table.

"I will not give this Vine away as I did 'Dr. Hogg.' If I do not receive from one to two hundred orders I will keep it till I do, having spent hundreds of pounds in raising seedling Vines without any remuneration; and having a really good thing that I can recommend without fear, few will blame me for expecting a little return for trouble taken and money spent. Having anticipated as far as possible every question likely to occur to my friends, let me conclude by saying that I shall receive their orders with pleasure and thanks, and they shall be executed in the order they are received."

In his efforts to improve the race of bedding Geraniums Mr. Pearson had a definite object in view—of imparting to the floriferous Nosegay section the broadness of petal of the ordinary Zonals. How he succeeded is a simple matter of history, and the successive batches of Chilwell Geraniums were always looked to as possessing qualities of a high order. The colours are now so varied, the trusses so fine, and the habits of the plants so good, that they have attained to a foremost place amongst summer decorative plants both for the flower garden and the conservatory. For the past few years the finest beds of Geraniums in the London parks had their

origin at Chilwell, and at the present moment these Geraniums occupy commanding positions in the parks of Hyde and Battersea. The newest varieties sent out during the present year are exceedingly fine, notably Mrs. Lancaster, pink, grand, rich, and massive; Louisa, lovely pink with darker spots; Mary Gregory and Mrs. Pearson, rose; Frederick William and Capt. Holden, plum-coloured; E. Davies, purple crimson; Leopard, salmon; David Thompson, crimson; and Lord Zetland, Havelock, and Wordsworth, scarlets. These are amongst the most striking varieties which have ever been raised, and are worthy of the latest efforts of one of the most successful hybridisers. Mr. Pearson was an active member of the Pelargonium Society, in fact was one of its originators, and continued to the end one of its best supporters. He was also for many years a member of the Fruit Committee of the Royal Horticultural Society.

Mr. Pearson's contributions to horticultural literature extend over a number of years, and some of the most important of them have appeared in the pages of this Journal. He is also the author of several useful treatises. His "Hints on the Construction and Management of Orchard Houses" has gone through four editions, and "Vine Culture Under Glass" has passed through three editions. Both of these are most reliable guides on the subjects upon which they treat.

The Chilwell Nurseries will, as a matter of course, be continued in all their wonted vigour. The same spirit that actuated their predecessors governs the present family, and the business will be conducted under the title of "J. R. Pearson," as before.

## ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 2.

WHATEVER change the use of ironclads—the drawback to Oak timber in immediate contact with iron is its powerful pyro-ligneous acid, which corrodes the metal and deteriorates the wood. For this cause the Indian teak and the Angelique of Guiana are in request for the backing of armour plates, but for the floating hearts-of-oak which won our naval supremacy Mr. Leslie does not hesitate to set up the British Oak as the standard—and the demand for Larch to furnish railway sleepers may have wrought in the economic pre-eminence of the Oak in point of dignity, ornament, and ancestral associations, it must still rank as foremost of English trees. "A Larch may buy a horse before an Oak can buy a saddle;" but where is the Larch or Larch grove that can pretend to a credit like that of some of the Oaks in the New Forest, in Arundel Park, in Bagot's Park, at Moccas, Holme Lacy, or a hundred other places; gigantic of girth, weird, gnarled, and massive of limb; and even in age vouchsafing such a prolixity of shade and shelter from their still leafy tops, that we can well believe the stories told of a troop of soldiers bivouacking of old under one such sylvan canopy? In point of duration the Larch is a mere fungus to the Oak, of which Dryden's couplet understates the truth in saying—

"Three centuries he grows; and three he stays,  
Supreme in state; and in three more decays."

The Saley Forest Oak in Northamptonshire could have told if gifted with speech of thrice five, not thrice three centuries; the Winfarthing Oak (Norfolk) was an old one at the Conquest; and there is a fair show of Oaks still in English counties that can sustain a claim to sexcentenary or semi-millenary honours. But where would have been their glory had our remote ancestors regarded the economic return of planting, and had the "dirty siller" been its sole or chief incentive? It is permissible in the planter to bestow half an eye on this, in so far as, in choosing nurses for the Oak which he should plant wherever there is soil congenial, he selects such trees as yield a quick and ready return, and pay—even the longest spared of them—their debt to the axe, or even the Oaks they have nursed attain to even the average honours of maturity. There is, we believe, little doubt of the superiority of the wavy-leaved Oak, with its fruit stalked and its leaves sessile (*Quercus pedunculata*), to the flat-leaved (*Q. sessiliflora*), which has its leaves stalked and its fruit sessile, or close to the branches. Selby considers both to be rather varieties of a single species, while Laslett doubts how the timber can be distinguished without access to the converter. Intermediate varieties are doubtless by no means uncommon; but though the *sessiliflora* is now determined to have furnished the roofs of Westminster Hall and others of our oldest buildings, till lately supposed to have been Chestnut, the *pedunculata* is still more esteemed in

the timber market; and so far is the Oak to covet, and this with the less sin, as it is the more prevailing kind. Though the sessiliflora is counted a handsome tree for its upright habit, graceful branches, and larger and brighter leaves, it matters less, inasmuch as only when young is there much perceptible difference between the two species or varieties in size and growth. Given a clay loam for soil and subsoil, with natural or artificial surface drainage, and the English Oak will not lag far behind rival timber trees in quick return or remunerative growth, nor yet cause a pang of hope deferred by delaying the promise of a distinct feature of the landscape. To say nothing of coppice wood, it is calculated that by careful thinning, selection, and replanting, an Oak plantation may be made to pay in suchwise that there shall be no serious locking-up of capital between the sowing and the ninetieth year—in favourable soils a good time for cutting. By that time the Oak will be eminently picturesque; though, as Gilpin notes, it is “through age that it acquires its greatest beauty, which often increases, even into decay, if any proportion exists between the stem and the branches.”

For its merit of indigeneity the British Oak should find place in every English park and lawn meadow. It is a study in bud, blossom, leaf, fruit, and life; in its epiphytes, the Ferns, Fungi, and Mosses, which add to its interest, whether standing or prostrate; and even in the curious spangle on the Oak leaf, of which the clusters puzzle the uninitiated, a phase of insect architecture, a golden-brown egg, which supplies the pheasant with one of its choicest delicacies. But, not to linger on curiosities, we would fain draw the attention of those who rate present pleasure above their debt to posterity, to a feasible compromise in Oak planting. Where ornament is the prime aim, but use and profit still a partial consideration, they might do worse than plant the *Quercus Cerris*, or Turkey Oak, a deciduous tree with a mossy hemispherical cup, and lobed irregularly-toothed leaves of a glossy green above and an almost white beneath. Though deciduous itself it hybridises with the Evergreen Oak, and might pass for an *Ilex* by reason of its leaves, though they die in autumn, clinging to it through the winter. Its rapid growth makes it a straight tall adult when the English Oak is yet a child, but candour bids us add that this maturity is purchased at the cost of the grandeur of ramification to which the latter attains at full growth. Still it is a consideration to get an Oak which in a good dry loam will repay its planter in forty years, either by its park-like aspect standing, or its availability as wainscot of beautiful grain when felled. It was introduced into Britain from the south of Europe in 1735, though indigenous in Asia Minor, and is propagated by the acorns; though its sub-evergreen varieties, the Lucombe and Fulham Oaks, hybrids between it and the Cork tree, can only be increased in their purity by grafting. Both these are alike in breadth of leaf, but the Fulham Oak's habit of growth is round-headed, that of the Lucombe decidedly spiral. The original Fulham Oak is to be seen at Messrs. Osborne's of Fulham, a locale where many introductions and hybrids of the seventeenth century may be studied with profit. A charming variety of the *Q. Cerris* is the *Q. Cerris pendula*, a weeping tree very worthy of culture.\* The Cork tree (*Q. Suber*) is a rarer and less striking tree than its cross-bred progeny. It is an evergreen introduced from Spain, and in a rich dark loam will grow to 40 feet, and exhibit a luxuriance of dark green foliage, contrasting well with its frosted silver bark. This latter is detached from trees of twenty years' growth and upwards “in pieces about a foot square and 1 inch or more thick, and the operation is repeated every eight or ten years, by which time the cork substance is renewed without any detriment to the tree.” London and Grigor quote the king of Cork trees as at Mamhead, Devon; but there is one of fine proportions in the Fulham Nursery. The *Ilex* needs little recommendation, and practised horticulturists still less caution against undue multiplication of it. Its drawback is a certain sombreness; its charm a grandness of diameter, arising from its being clothed from head to foot, when it stands out alone, with a dense mass of leaves and branches. Of later years America has contributed many valuable species of the Oak to our parks and gardens. The kindred

*rubra* and *coccinea* are both presumably hardy, and both notable for a glossy green summer foliage, which turns in autumn to a rich scarlet or purple. The leaves are large and oblong, on long stalks; and fine specimens of *Q. coccinea* are to be seen at Croome in Worcestershire, and at Strathfieldsaye. The speciality of *Quercus alba* is its silvery bark; in fruit and leaf it is a finer sessiliflora. It wants a good soil and a warm situation; with which advantages, in the Grove at Muswell Hill, there is one which, at seventy-two years of age, stands 61 feet high. Selby's doubts of its success in this country arose probably rather from observation of its slowness of growth in exposed places than from any susceptibility to frosts. The *Q. nigra*, or American Black Jack, is as fastidious about soil as its opposite. It takes its name from the blackish-red which characterises its wedge-shaped leaves before the fall. The Phellos, or Willow Oak, deserves planting for its elegant habit of spray, as well as for its hardihood; and the *Q. prinus* is attractive for its Chestnut-shaped leaf, and is quite hardy in the neighbourhood of London.

From a contemplation of both, with an eye to the picturesque, Gilpin ranks the Ash next to the Oak—the “Venus of the Wood” next after the Hercules. Yet it is not a tree for every situation, and, though strikingly effective at the corner of a wood or on the slope of a ruined abbey, should be sparingly planted near a gentleman's residence, and this because, coming latest of all trees into leaf, it is almost the first to shed its foliage. So much is this the case, that the expansion of the Ash leaf is reckoned as safe an indicator of the season of bedding-out as the fall of it is a hint to remind such fine folk to shelter. As a natural result of such a long term of leaflessness too many Ash about a place impart to it a cold and barren appearance. But even the common Ash, in maturity and in age, with a congenial soil and situation (a hill bottom, or a well-drained riverside slope, and a deep loam) is a tree to admire and reverence. One at Woburn Park measures more than 90 feet in height and 20 in girth, and contains 872 feet of timber. Others at Longleat show 50 feet of clear stem, and measure 14 feet round. It is, however, best planted by itself, though a stray giant here and there may well diversify the park or pleasure.

But if late leafing disqualifies the Ash for vicinage to the mansion and its wings, no such charge can lie at the door of the English Elm, which, coming late into leaf, is one of the latest of forest trees to succumb to autumnal frosts. A doubtful native, it must have been acclimatised, if at all, in the days of the Heptarchy, and since then has contributed more than any other tree, save the Oak, to the charm of rural England. In the valley of the Severn it has been so long naturalised that neighbouring counties distinguish it as the “Worcestershire” Elm; and though its introduction to Ireland, Scotland, and the Border belongs to a comparatively definable period, it may be said to have found a home in the south of England from time immemorial. That its form and growth with us eclipses that of Continental Elms appears in the fact of its having been exported from us to Spain to form the avenues at Madrid and Aranjuez in the reign of Philip II. It is probable that English avenues have been decimated in number through an absurd craze which possessed proprietors in the early part of this century to make war upon straight lines and double rows; yet wherever, as at Oxford, Cambridge, and here and there in the West of England, the old Elm avenues of two hundred years ago still survive, they assert a superiority in this fashion to avenues of Beech or Lime, or any other deciduous tree. To modern experiments in avenue-making with coniferous subjects—*Araucarias*, *Deodars*, *Wellingtonias*—there must ever be this drawback, that such double columns can never be in undress; whereas the Elm array is stately and impressive when off duty in the leafless season, just as it is gay and glancing, a mass of shade and shelter wonderfully disguised, when on parade and in full foliage. As much may be said for it in groups of two and three, or in the wilderness, which is a common feature of manor-house precincts. And it is indisputably the finest park timber after the Oak, in respect no less of its massy proportions than of the loose set of its crowded but small leaves, the cheerful green of which deepens as the months wane, till at last it becomes a clear yellow. Not every day, of course, does the tourist come across such Elms as the “Crawley” or the Hatfield, or such as are seen at Sion House or Longleat; but a girth of 14 or 15 feet at 5 feet from the ground is not uncommon in a kindly soil—to wit, a free, open loam, without stagnant water. An Elm at Croft Castle, Herefordshire, is 120 feet in height. After eighty years

\* But the common Oak has its pendulous variety, a famous instance of which is the Weeping Oak at Moccas Park, Hereford; the acorns of which, if planted, generate Oaks of more or less weeping habit. London figured this tree in his “Arboretum.” Its girth at 5 feet from the ground is now 14 feet 8 inches, but though several of its branches still justify its distinctive name, the upper branches now take so much of the normal character of the Oak as to be somewhat disappointing.

the Elm has a tendency to become hollow, but this may be mostly where the soil is not deep and kind, and where the wet stagnates. Its worst foes, after wet, are the Elm beetle (*Scolytus destructor*) and the caterpillar of the gold moth. Its timber, valuable for many country uses, is eminently so where durability under alternations of wet and dry is a consideration—e.g., for pumps, troughs, conduit-pipes, water-gates, and water-wheels. It is in request, too, in dockyards for laying the keels of large ships.

Larger, broader, and more deeply serrate of leaf, though, like all the Elms, its leaf is unequal at the base, less upright, too, and stately in growth, though its spreading head, divergent limbs, and festoon-like branches render it highly picturesque in park or paddock, is the Wych or Scots Elm, an undoubted native of Britain, whatever be the history of its sister we name the English Elm. Whilst the latter carries its upper branches cluster-wise, and resembles a goblet in its tree-top, the former assumes a rounder and more umbrageous character, striking the critical eye as more easy and graceful. Another difference is that it has no suckers; another, that whereas the English Elm has to be propagated in this country by layers or suckers, the Wych is easily grown from seed. To see it in its glory probably the tree-fancier must go north: for the famous "Trysting Tree" near Roxburgh in Teviotdale (girthing 30 feet at 4 feet from the ground), and the Wych Elms of Eastby near Richmond in Yorkshire, eclipse in size the average Wyches of the south and west. Yet an exception may be made in favour of one near Chepstow Castle, which girths 36 feet at 4 feet from the ground; and we believe there is one of yet larger circumference in Lord Bathurst's park near Cirencester. Both of these put forth huge lateral arms. But the secret of the Wych attaining large proportions is a rich alluvial soil where moisture percolates freely, a reason, as Selby has noticed, for its affecting the Yorkshire river dales. Its name, we suppose, is no longer a puzzle, as the notice of its connection with magic arts sprang clearly from a fallacy of the ear. The Wych or Wiche Elm, is so called from the olden use of its wood to make boxes and chests, for which it was the old English word. It is said to have more toughness of longitudinal fibre than the English Elm; and is used for cart-trams, naves, and framing, and indeed, for most purposes for which the Ash is in request. Among its curious properties is its sure indication of coming frost. Unlike the common Elm, which keeps full late its deepened verdure, the Wych no sooner scents the advent of cold weather than it curls up its leaves, puts on a habit of brown, and anon is bare and leafless. For this and its singular retention of moisture, no less than its columnar trunk and finely reticulated bark, the Wych is a tree to plant and prize in the open; though the day is past when it might be used for a nurse, or clipped and maimed, as in the days of Queen Bess, for topiary purposes. Amongst its varieties the most attractive is the Camperdown (*Ulmus montana pendula*), a weeping Elm of singularly graceful habit. Most varieties are grafted on the Wych stock; and though Selby (p. 133) doubts the wisdom of trusting the *Ulmus campestris*, where the soil is good, to any stock but its own, we have ourselves seen the value of the grafted Elm in replacing the gaps of an Elm avenue. Compared with other makeshifts, its rapidity of growth fills a vacancy creditably in less than a score of years.

Like the Wych in roots that resist wind and storm, and like it in being among the first of trees to yield its leaves to the cold, the Lime or Linden (*Tilia*) is a foster sister of the English Elm, in that it frequently ekes out the avenues of the latter. The question of its indigenity is so far settled that the weight of authority leans strongly to the affirmative as regards the small-leaved Lime, which, as Mr. E. Lees, F.L.S., of Worcester, long ago noted, is common in the woods of Worcestershire, Herefordshire, Gloucestershire, and Oxfordshire. He testifies, also, to its seemingly indigenous presence on the banks of the Hefse, in Glamorgan; and draws a distinction between this and the *Tilia europæa*, which may have been introduced to England, for avenue purposes, in the days of William and Mary. This is seen chiefly in parks and gardens; while the rarer *Tilia grandiflora*, of larger leaf and a pale downy underleaf, is a denizen of the arboretum. A symmetrical tree in either variety, the Lime deserves the favour of the planter, singly, as well as in lines and rows. A single Lime at Long-leat measures 130 feet in height, its girth at 4 feet being 13 feet; but this is outvied by one at Moor Park, Herts, which girths 23 feet at the same distance from the ground, though its height is less by 30 feet. A more remarkable Lime still is to be seen

at Knowle in Kent, a rival of the Banyan tree in singularity of growth. Its lower branches have dropped till they kissed the ground, and thus taking new life, thrown up a circle of young trees from the parent stem. Aye, and repeated the process! The marvel repeats itself in a second circle; and this goodly company of attached and incorporate descendants of a living vegetable patriarch is said to cover a quarter of an acre. A like phenomenon is to be seen near the Roman remains in Lydney Park, Gloucestershire, where the small-leaved Limes, which are very abundant, give indications of great age, and may have been independent of man's planting.—(*Quarterly Review*.)

### THE THOMPSON FUND.

As several inquiries have been made regarding this fund it may be desirable to say what has been done. The sum of £90, or very nearly that, had been subscribed, and it was our hope that we might have been able to procure the admission of the two little girls into an orphanage, but after seeking in all directions we were compelled to abandon this notion. Amongst others application was made to Mrs. Tait to obtain admission into her orphanage at St. Peter's, Thanet, but there were certain rules which interfered with their admission; but it was suggested by Mrs. Tait, that as the mother was living the most natural thing would be to allow her a certain sum monthly out of it on condition that the children were sent to a good school. This has been adopted, and the amount after paying funeral expenses will be so appropriated. The widow has been for some time receiving £2 a-month on these terms, and at this rate it will be a help to her for some years to come. Dr. Hogg has kindly undertaken the trouble of seeing to the distribution, and I have only now to thank those who contributed for the aid given in memory of one who was so justly respected.—D., *Deal*.

### NOTES AND GLEANINGS.

WRITING in reference to WALL FRUIT Mr. W. F. Radclyffe states that "for a long time, through the excessive drought and heat, Peaches and Nectarines seemed stopped in their growth, although they were kept watered. We have had a wonderfully fine rain, and the fruits are now swelling freely. I cannot remember such sultry suffocating weather as we have had this summer."

—MR. J. T. PEACOCK, Sudbury House, Hammersmith, has kindly announced that his collection of SUCCULENTS may be seen by visitors on any Tuesday from ten to four o'clock during August and September. Mr. Croucher, the gardener, will be in attendance.

—THERE is now in flower at Mr. Reeves', North End Lodge, Walham Green, a very handsome plant of *CRINUM GIGANTEUM*. It has a fine head of bloom, with about a dozen Amaryllis-shaped flowers of a very delicate blush colour. The flower stem is about 2 feet in height. This is probably the finest plant in the country—a charming acquisition for the conservatory at this time of the year. The plant may be seen by applying to Mr. Chapman.

—WE are glad to state that the DISASTROUS FIRE at Messrs. Boulton & Paul's will not affect any other department of the works, where business will therefore be carried on as usual; and although the horticultural workshops are destroyed, fortunately the entire stock of well-seasoned timber which was stored in sheds at a distance from the scene of the fire was saved. We are informed that arrangements are being made to resume this special branch at the earliest possible date, and continuing it during the rebuilding of the premises.

—MR. JACKSON, gardener to Lord Scarsdale, Kedleston Hall near Derby, has an EXTRAORDINARY CROP OF GRAPES, one Vine carrying about 154 lbs. of very fine fruit, the bunches averaging about 3 lbs. each. They are Black Hamburgs. They are very noteworthy, and bear the evidence of skilful culture.—E. C.

—IN the report of the Sawbridgeworth Nurseries on p. 121 it was inadvertently stated that Mr. Rivers possessed a stock of MRS. PEARSON GRAPE. Mr. Rivers requests that the mistake may be rectified, that Grape being now announced for distribution from the Chilwell Nurseries.

—SOME of the finest MUSCAT OF ALEXANDRIA Grapes that have come under our notice have been grown this year by Mr. Denning at Londesborough Lodge, Norbiton. The berries are

remarkable for their size and regularity, being 1½ inch in longitudinal diameter, and they are highly finished. The Vines in this garden are young and in admirable condition, and are fully as noteworthy as are the many fine examples of Orchids for which this place is famed.

— THE APPLE attains a large size in Nova Scotia, and in favourable seasons is of fine flavour, well ripened and coloured. This is owing largely to the beautiful autumn months of September and October—the heat of the sun and the warm dry weather being almost peculiar to the climate at this season of the year. The recorded weight of several varieties exhibited at the shows of the Fruit-Growers' Association is as follows:—

	Dozen.	Single Specimen.
Gravenstein .....	7 lbs. 9 ozs.	18½ ozs.
Ribston Pippin .....	6 " 14 "	9½ "
Yellow Bellefleur .....	7 " 10 "	11 "
Baldwin .....	7 " 10 "	12½ "
Gloria Mundi .....	10 " 7 "	20 "
Chebucto Beauty .....	9 " 7½ "	18½ "
Emperor Alexander .....	9 " 3 "	18½ "
King of Tompkins Co. ....	6 " 14 "	11 "
Northern Spy .....	8 " 6 "	12 "

The Apples for winter use and for commercial purposes are taken from the trees in the month of October, and from the 5th to the 25th, and sometimes even later. The early sorts, such as Red Astrachan, Early Harvest, Early Joe, Early Red, Bough and Sutton's Early, a native of Nova Scotia, ripen in August and September; then come Porter, Williams' Early, Munson's Sweet, and Gravenstein in the month of September and early in October, the Gravenstein often attaining its greatest perfection when left on the tree as late as the 5th and 10th of October. The Baldwin, Greening, Nonpareil, Russet, Northern Spy, King of Tompkins County, Blue Pearmain, Yellow Bellefleur, Ribston Pippin, and other varieties do not attain their perfection till the 10th to the 25th of October.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

The pyramid and dwarf-trained trees have until now not been interfered with. They would have been looked over and all superfluous wood removed, but a press of other work prevented it. We are now cutting out all the young wood that is not required, leaving only two or three buds at the base of the shoots. Some of the Pear trees, and also a few Apple trees, have made a large quantity of young wood, and trees planted only 6 feet apart had grown into each other. There is a great difference in the quality of the soil for causing trees to grow to wood buds. Our experience is that light soils have a greater tendency to produce young wood than heavy or clay soils. We have seen the young trees at Sawbridgeworth grafted on dwarfing stocks make but little growth in a young state, producing far more fruit than leaf buds, and when the same trees were removed to a light moderately rich soil they produced young wood too freely.

Constant summer pruning and pinching will cause the production of fruit buds in many instances; but it is sometimes necessary to supplement this with root-pruning. For instance, we have not been able to repress the vigorous growth of Waltham Abbey Seedling or Tower of Glamis Apples by any system of pruning, and equally difficult has been the management of General Todtleben and Maréchal de Cour Pears; but cutting back the roots in autumn as an aid to summer pruning is generally sufficient. The hot summer weather has developed an unusually large number of the Apple maggot. As the trees are being pruned all fruit that has been bored by the maggot is gathered from the trees, in order if possible to diminish the numbers of the pest in future years. Removing the young wood has allowed the influence of light and air to act upon the fruit. Apples, Pears, and Plums are very much below the average of previous years. Bullace trees, which have not failed to produce a crop during the last twelve years, are a total failure, and the same may be said of Damsons. Raspberries were a good crop, and they are making strong young wood for next year. Cherries and Red Currants were good crops, and Gooseberries were up to the average.

Strawberry plants put out a month ago are now making vigorous growth. It has been necessary to look over the plants and to cut away the runners. In a week or two it will improve the plants to run the Dutch hoe through between the rows. We have noticed on wall trees, especially this year, a number of branches on Plums, Peaches, and Apricots that have died off. The dead or decaying leaves are unsightly, and the branches ought to be removed, laying the fresh growths from each side closer together to fill up the vacant space. Any trees that have suffered from drought now show the effects of it by the fruit

dropping off after a good soaking of rain. Morello Cherry trees require but little pruning; they have carried a very good crop of fruit this year. When the wood is too thick the present is a good time to thin it out.

### VINERIES.

It is too early to prune the Vines in the houses intended to be started about the end of November. The top lights should be pulled down night and day, and the front sashes be open to their fullest extent. All lateral growths should be stopped as they are formed. The late Grapes are not yet ripe, but with a night temperature ranging from 55° to 63° we do not think it necessary to apply artificial heat. The ventilators have been opened to their fullest extent by day owing to the intense heat, the thermometer having risen in the shade on many occasions over 90°, once to 95°. A little air is admitted all night both at the front and back of the houses. The temperature has now fallen considerably, and a fall of 0.72 inch of rain has cooled the ground, and it will doubtless gradually become colder. In northern districts it may be necessary to apply artificial heat to the Muscat house; with air on the night temperature should be about 70°, rising about 10° higher in the day from sun heat. North of the Forth in Scotland and in some of the wet districts of England it is necessary to use artificial heat all through the summer months for Muscats. The atmosphere is kept rather dry and the ventilators are constantly open; a very small chink of air will keep up the circulation.

Vines in pots that have not yet ripened their wood must be encouraged with a high temperature, and if the growth is over-luxuriant water must not be too freely applied to the roots. When in full growth and when the pots are well filled with roots a very large quantity of water is absorbed; but we have not always found the strongest canes bear the best fruit; moderate canes with prominent buds generally give the most satisfactory results. Early-ripened canes intended for early forcing should be kept moderately dry at the roots. It is a great mistake to dry them off, thinking that the wood will be ripened in that way. It does not follow that because the wood is brown that it is necessarily ripe. The main object of the cultivator is to produce well developed buds. If the pots have been placed in front of a wall facing south, or where they are fully exposed to the sun, a slate, tile, or board should be placed against the pots to prevent the heat injuring the roots.

### MELONS AND CUCUMBERS.

Late Melons will now be flowering, and a temperature of 65° at night should be kept up, rising considerably in the day. Close the house early, and syringe freely to keep the plants free from red spider. Melons in frames are liable to suffer from damp after this month. The fruit should be laid on a bit of tile, but it should also be partially shaded by the leaves. Melons under glass fully exposed to hot sunshine not unfrequently receive injury before the fruit is ripe.

It is now a good time to sow Cucumbers for an early winter supply. They come into bearing early in October, and will, if not overcropped, continue to produce Cucumbers till March. After that time it is best to trust to plants raised from seeds in January. It is a great mistake to allow the plants to bear too much at any time during the winter months; it checks the development of young growths, and the plants take a long time to recover.

### PLANT STOVE AND ORCHID HOUSES.

There is no potting required at present, but all plants that have sufficient rooting space make vigorous growth during the next six weeks. It is well to see that this growth does not become overcrowded. One not unfrequently sees the young wood, or rather the growing shoots, bundled together so that it is impossible that any of them can be well ripened. To give stove climbing plants anything like justice they ought to have sufficient space. One growth that has been exposed to light and air is worth any number of immature shoots which the sun has not reached. It is a good time also to destroy mealy bug. This must be washed off with a sponge and soapy water. Thrips are also very active, and they attack plants that are quite free from bug. They prefer the younger leaves, and when they attack the centre of the young growths it is very difficult to eradicate. Red spider has also been very active during the hot dry weather, especially on Dendrobiums, such as D. Devonianum, D. Bensoniae, and other sorts. Daily syringings are needed to keep such Orchids in good health.

Flowering stove plants that are being grown-on for decorative purposes in the winter require careful attention; they should be trained into proper shape and kept free from insect pests. In order that such plants as Euphorbias, Apelandras, Eranthis, Thysacanthus, &c., may flower freely the plants must after this be freely exposed to light and air. Poinsettia pulcherrima is generally grown in too much heat through the summer months; the plants make the most satisfactory growth in a cool greenhouse, or in a sheltered position out of doors. They must not be placed where they are exposed to the fury of south-west winds; in dry weather they must be syringed twice a day. The general collection of Orchids require less water at the roots,



and light and air should also be freely admitted to them. Cool Orchids, especially *Odontoglossum crispum* and the *Masdevallias*, require a larger supply of water than any other species. We generally place them during the growing period together in the house, so that they may be syringed overhead once or twice a-day in hot weather.

#### FLOWER GARDEN.

We have not yet commenced putting in cuttings of the tricolor-leaved *Pelargoniums*, but it is now time that this was done, and all the slow-growing varieties will be put in as soon as possible. The best way is to put the cuttings in pots or boxes and place them out of doors. They will strike freely if the weather continues warm; cold and wet are injurious. Roses are liable to the attacks of mildew more at this season than at any other, and if this pest goes on unchecked for a time it is very difficult to remove it. On its first appearance the affected parts should be dusted with flowers of sulphur, or the bushes may be syringed with water in which 1 oz. of soft soap and 2 ozs. of sulphur to the gallon have been dissolved. After the bushes have been cleaned from the pest, and should the weather continue dry, syringe freely in the morning and water the roots, giving a slight mulching of manure over the surface of the ground.

In the course of this or next week the early-flowering pot Roses will be repotted. This is done annually at this time of the year. The Rose delights in rich sweet soil, and to be successful in pot culture it must be renewed annually. The pots are well drained, and some fibrous loam is placed over the crocks to keep the finer soil from mixing with them. Turfy loam five parts, one of decayed manure, and one of leaf mould, grows them well. After potting the plants are placed in an open position out of doors.

Owing to the very hot dry weather when the Pink pipings were put in, we have had to put in a second lot to replace some that have failed; at this season they will root freely. Carnations and Picotees have all been layered and are making very strong growth. The surface soil is just sprinkled with water when it appears dry. Auriculas are throwing out offsets freely this autumn. When large enough they will be taken off and potted in small pots. We look over the plants once a-week to remove weeds, decaying leaves, caterpillars, and insects.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Sutton & Sons, Royal Berkshire Seed Establishment, Reading.—*Illustrated Autumn Catalogue of Bulbous Flower Roots, Plants, Seeds, &c.*

Dickson & Robinson, 12, Old Milgate, Manchester.—*Catalogue of Dutch Flowering Bulbs, &c.*

James W. Mackey, 40, Westmoreland Street, Dublin.—*Descriptive Catalogue of Dutch Flower Roots, &c.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LARGES AND FAIRLIE. August 25th. Mr. D. G. Glen, Hon. Sec.  
SEADY. August 25th. Mr. E. T. Smith, Hon. Sec.  
SANTON BURN. August 26th. Mr. B. Richardson and Mr. W. Elliott, Secs.  
DOVER. August 29th. Messrs. E. W. Fry and C. T. Whiteley, Hon. Secs.  
CHIPPENHAM. (Cottagers' Garden Improvement Society). August 29th. Mr. Alfred Wright, Sec.  
ISLE OF THANET (MARGATE). August 30th. Mr. C. D. Smith, 8, Marine Terrace, Margate, Sec.  
SHIRLEY, MILLBROOK, AND FREEMANTLE. August 30th. Mr. Jennings and Mr. Squibb, Hon. Secs.  
POCKLINGTON. August 31st. Sec. Mr. J. E. Ross.  
YARMOUTH. August 31st. Mr. S. Aldred, Hon. Sec.  
THORNTON HEATH. September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.  
MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.  
STAMFORD. September 7th. Entries close September 2nd. Address the Hon. Secs., Stamford.  
DUNDEE (International). September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.  
GLASGOW. September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

MUSHROOM CULTURE (*R. Goodchild*).—Full directions are in "The Cottage Gardener's Dictionary."

VINES MILDEWED (*An Anxious Inquirer*).—As the berries also shank, we think the roots have much to do with the disease. Cut away the descending roots, and keep the surface of the border moist. We do not consider such a house and site as you describe favourable for the production of good Grapes.

BORAGE TEA (*A Lady*).—The Borage is taken green, and the foliage, stems, and flowers are boiled or infused.

FLOWER STAND (*A. J. M.*).—We cannot supply what you require.

MINT BROWN (*E. M. P.*).—If you water it freely and regularly during this dry hot weather the leaves will not decay. The beetle will do no injury of consequence.

BLACK BEETLES (*T. F. H.*).—Try Chase's pills for destroying them. Place one or two pills on the surface of the soil in the Chrysanthemum pots. The pills are sold by chemists.

DR. MACLEAN PEA (*A. S.*).—This is a very fine exhibition Pea. It has fine pods, which are closely filled with Peas of excellent quality. Commander-in-Chief is also one of the finest of Peas for the exhibition table.

PERENNIAL BORDER (*A. N.*).—Read Mr. Luckhurst's article on page 160 of the present number, which will probably give you the information required.

FRUIT TREES FOR ORCHARD PLANTING (*Leeds*).—The best Apples are—Alfriston, Bedfordshire Foundling, Bess Pool, Blenheim Pippin, Brownlee's Russet, Cellini, Pomona (Cox), Devonshire Quarrenden, Dumelow's Seedling, Emperor Alexander, Golden Noble, Kerry Pippin, Keswick Codlin, London Pippin Orange Pippin, Norfolk Bearer, Reineette du Canada, Rymer, Tower of Glamis, Waltham Abbey Seedling, Winter Pearmain, Sturmer Pippin, and Wyken Pippin. Pears—Autumn Bergamot, Beurré de Capiaumont, Bishop's Thumb, Croft Castle, Eyewood, Hessel, Louise Bonne of Jersey, Suffolk Thorn, Swan's Egg, Williams's Bon Chrétien, Windsor, Winter Nellis, and Doyenné d'Été. Plums—Early Rivers, Orleans, Mrs. Gibborne's Goliath, Mitchelson's, Victoria, Diamond, Belle de Septembre. Cherries—Elton, Knight's Early Black, May Duke, Morello, Kentish Bigarreau, Governor Wood, Duchesse de Palluau, and Late Duke. If the soil is moderately rich it is better not to manure the ground for the trees you name. October and November would be suitable months to plant Rhododendrons and Hollies.

BRANCHES OF PEACH AND NECTARINE TREES DYING (*Neworth*).—The leaves sent are infested with red spider; besides, the leaves are thin in texture, showing that the house is not properly ventilated. Keep the leaves free from insect pests, and admit air to the house sufficiently to prevent scorching, and the branches will not die off.

PLANTING PERENNIALS (*Ladie*).—You may plant them as soon as the heat of summer has subsided and the autumn rains commence falling, or any time from September to November when the weather is dull and showers are prevalent. You can do nothing at the present time by way of remedying your unskillfully-pruned Roses. Probably the shoots left will become matured, and they should be rather closely pruned about March or April next, and new shoots may be produced to give you a fair supply of blooms.

COCKSCOMB CULTURE (*X. Y. Z.*).—The seed should be sown in heat early in spring, and when large enough the seedlings should be potted singly in small pots. In these they should remain until they show the "heads," and the most promising plants must be repotted into larger pots, and be still grown in a heated house or frame, a Cucumber frame answering very well. The soil must be light and rich; loam, leaf soil, and decayed manure in equal parts, and a liberal admixture of sand answering well. The plants should not be planted out before July. March or April, according to convenience for growing the plants on, would be a suitable time for sowing the seed.

VIOLAS (*Arthur Loftus*).—The best half-dozen of Violas in their improved forms are Crown Jewel (Dean), yellow; Lothair, indigo blue with dark blotch; Royal Blue (Dean), clear blue; Alpha, bluish purple; Lady Susan, golden yellow; and Golden Perpetual. There is no really good white Viola; but Dean's White Bedder, a Pansy, is good. They are all hardy. The cuttings may be put in in a sheltered situation early in October and planted out in spring, or they may have the treatment of bedding *Calceolarias*. The *Tropeolum* you saw in Scotland is probably *T. speciosum*. Plant it out, if you live in the south, in a bed of peat soil, and allow the shoots to grow over Rhododendrons or similar shrubs: in this way it is a choice "weed." Or if north, plant against a wall with a west or south-west aspect, watering freely in dry weather, and training to a trellis.

VINES ATTACKED WITH MILDEW (*T.*).—Give a little fire heat so as to admit air more freely, continuing until the Grapes are ripe, and dust the parts infested with flowers of sulphur. Discontinue the application of soapsuds, and keep the atmosphere dry by free ventilation.

NAMES OF FRUITS (*Connaught Subscriber*).—1, Lacombe's Nonesuch; 2, Red Magnum Bonum. (*C. M. A.*)—Florence Cherry. (*Ewing & Co.*)—The Apple is very like Sack and Sugar except in flavour, and in that respect it is not so good. It has a strong resemblance to some of the Russian Apples. (*Fitz*).—1, Mère de Ménage; 2, Rosemary Russet; 3, Hawthornden; 5, Loas's Pearmain.

NAMES OF PLANTS (*F. M. Rogers*).—*Geranium striatum*. The wild Parsley is very peculiar. (*J. D.*)—*Geranium phaeum*. (*H. T. B.*)—1, *Scutellaria Mocquiniæ*; 2, *Ligustrum japonicum*; 3, *Ceanothus azureus*; 4, *Buddleia globosa*. (*Constant Reader*).—1, *Buddleia asiatica*, or a nearly ally; 2, *Achillea ptarmica*, double-flowered var.; 3, *Polystichum angulare*; 4, *Lastrea dilatata*; 5, *L. spinulosa*. (*G. Copstead*).—*Spiraea arisfolia*. (*James*).—You are probably right, but the specimen is not satisfactory. (*A. Wildsmith*).—*Polygonum Convolvulus*. (*L. J. K.*)—A double-flowered variety of *Convolvulus* (*Calystegia*) pubescens. (*Johnson*).—1, *Abutilon striatum*; 2, *Lophospermum erubescens*; 3, *Veronica speciosa variegata*; 4, a *Davallia*; 5, *Clematis viorna*; 6, *Tradescantia zebrina*. (*J. H.*)—1, *Hedychium Gardenianum*; 2, *Griffonia hacinthina*. (*G. R.*)—*Epilobium lanceolatum*. (*I. A. M.*)—The yellow flower is *Lysimachia vulgaris*, the other *Lychnis Haagiensis*. Your other question will be replied to in a future number.

#### POULTRY, BEE, AND PIGEON CHRONICLE.

#### ADVERTISEMENTS.

WE believe it is Mr. Streeter who in his advertisements states that advertising is to trade what steam is to machinery, and so in the poultry world an advertisement often is the means of clearing off a lot of fair birds at a remunerative price; but then the advertisement must be drawn up in such a way as to state fully and truly what is for sale, and in a manner easy of being understood. But some advertisements we cannot understand.

We will give one or two examples. "One of the best Brown Red cocks in England, two years old, stand death," recently appeared as an advertisement. Now we ask, What does this mean? Is it that the said Brown Red bird will stand, and not be in any other position when the cruel hand of death overtakes it? or is it that it is cat-like and rejoices in many lives, only one or two of which have been lost when the bird is offered for sale? or is it that it is invulnerable and will live on for ever? or what does it mean? We confess we are confused, and fear the Brown Red must be still for sale. Here is another—one, however, almost as mystifying: "Spanish cock, nearly blind, with white, and one hen have prized;" but whether the advertiser considers that the Spanish cock in question to have been perfect should have been quite blind with white or partially so with any colour, or whether the blindness spoken of in a fit of desperate honesty, and the cause of the blindness merely added as a sop, we cannot determine. Anyhow, the partially blind cock which "has prized," will, we fear, hang on hand. The next column, however, provides us with an absolute bargain. Imagine fowls at 4d. each, for we read in this thrilling advertisement, "Three fowls for 1s." There is a delicate silence as to the breed, age, and general minutiae, but for such a bargain the world must be clamorous, and we hope the three fourpenny chicks were not so young as to die *en route* to their new home. Just above that, however, we read that there is someone in London (of negro extraction we should almost think), who with a fresh and wholesome mind wants white things around him. Dorkings, Spanish, Cochins, and Brahmas are offered for exchange, but the offers must be "white." Does the advertiser when he puts "white offers" expect to be deluged with offers of people and things from other countries? or can "white" be a misprint for "write?" But surely this is improbable, for no one can imagine that these birds would be sent for by special messenger or by telegram. One more quotation and we have done. "Three hens, three cocks, twelve pullets, and a cockerel." "Must be sold before Wednesday." The day we are writing on is the actual Wednesday, and we cannot help wondering if the nineteen birds have found a new home. We should be afraid not, for only three clear days, and one of those a Sunday, were allowed for this speedy sale; and as neither the price was given, nor the address of the advertiser, some sort of correspondence would necessarily have to ensue. The above is a type of advertisement which is sent out to the world. We are sure advertisements cannot be drawn up too plainly or too fully, for people feel much more inclined to answer an advertisement which will not necessitate much correspondence, and which states directly what is for sale, than they do those which simply state the name of the article and give no particulars or prices.

There are the advertisements, too, of forthcoming shows and meetings, which are not nearly plain enough; for instance, some little town which is not well known gets up a poultry show and advertises it, but never states the county it is in, and consequently exhibitors do not take the trouble to write for schedules, thinking it may be in some inaccessible place. Very likely the town has no station, and is dependant on that of a neighbouring place, and so the "Bradshaw" can give no help. Only this week we attended a show which in its advertisement never stated the name of the county the town was in, and as it had no station we heard afterwards of two exhibitors who would have exhibited had they known where the place was. We could find nothing to direct us as to its stations, and when we arrived we found ourselves separated from the exhibition by a cab fare of 11s. We would urge on all advertisers, especially those of "coming events," who to a great extent depend upon the public for their support, to be very particular in describing their county when the place is not generally known, and even to state on what line of railway it is situated, and what are the best trains and stations. The small sums the extra words in the advertisements would cost them would be amply repaid by increased entries and support.

Advertisers cannot be too sufficiently accurate in the truth of their advertisements. Of course, no papers will be responsible for the truth of statements any more than they will be of the trustworthiness of the buyers and sellers; but statements, often made for want of thought, place advertisers in disagreeable positions, for there will always be found some ready to think the errors were done purposely. We noticed in a contemporary last week an advertisement about an illustration which was stated to have appeared in its columns, but which we believe never did, for it belonged to another journal entirely. We do not doubt but that this error was made by want of thought simply, and yet we learn that there was someone ready to "catch up" this advertiser and to proclaim him in the wrong. This statement was, however, made in such an open sort of way that we can but believe the advertisement was drawn up by mistake, and not done so to gain honour for the birds, which notice and illustration in the contemporary in question would have gained them. Many are the advertisements of the nature we have quoted from, and we could give instances of some even yet more abstruse, but we have told of enough, we

hope, to put our readers on their guard against ever compiling such foolish compositions.—W.

## OLDHAM SHOW OF POULTRY, &c.

THIS year we are happy to relate the Oldham Show was held under more favourable circumstances than was that of last year, for though showers fell at intervals the day was tolerably fine; in fact there was no impediment to the influx of visitors. Turner's pens were used on this occasion and placed in the open air; the sky breeze seeming to chill some of the Pigeons, which were more unluckily placed than the poultry, which had the fence to shield them.

The Show was for young birds of this year in the poultry section, and being the first of the season great interest was manifested; our experience leading us to believe that great size is not to be a striking feature of this season's produce. Some of the classes were very weak, and from the Brown Red chickens that won in the first class we found nothing of great note till we came to the *Cochins*, in both classes of which were some excellent birds; the first-prize Buff pullet was almost as high in colour as a well-peppered Canary. Next to these were the Gold-spangled *Hamburgs*, among which were pullets almost equal to hens in point of spangling, and in our opinion an improvement on all previous years. Black *Hamburgs* were really grand, the plumage of some of the pullets being almost like polished metal. *Bantams*, Game pretty good, and Black very good. The *Ducks* in both classes large and well forward in feather.

*Pigeons* were a larger entry than the poultry, the local classes assisting greatly in enhancing the interest in the Show. Carriers had two classes. In cocks Mr. Walker's champion Blue was left out. In hens, first was a grand Dun, but we thought Mr. Walker's Dun should have been second. The best birds in the Turbits were left out. Pens 630 and 632 should have occupied their position, the winners being very foul-thighed—a point that no doubt escaped the notice of the Judge. Jacobins and Fantails were placed, as also foreign Owls, which were good. In Blue and Silver Dragons the greatest mistake occurred, the first going to a bad White Carrier. The same exhibitor's Silver should have been second, and Mr. Wood's Silver first. Any other colour were well placed; first Yellow and second Red. Antwerps were a good entry, the young class producing some wonderful birds.

*Rabbits* had twenty-eight entries in seven classes. In Lop bucks first was a Black-and-white, rather bad in colour and thin, but by far the best in other points; second also Black-and-white; and third Sooty Fawn; an otherwise good Blue was very crooked in leg. In does we were surprised to see so much improvement in Messrs. Schofield and Barrett's Black doe, left out at Idle for badly-cankered ears, and she was consequently placed first; second was the same exhibitor's Fawn-and-white; a third prize was awarded, but this was to a very crooked-legged Rabbit. Dutch were pretty good; the first a very promising one, not so good in blaze as the second, but more evenly cut. Angoras were good and fine in wool, and Himalayans a nice lot. The Silver-Gray winner at Idle was again first here, and has without doubt one of the best coats of fur of any Rabbit living; the rest very good specimens. The Variety class had Belgian Hares, but they were poor.

**POULTRY.—GAME.**—Black-breasted and other Reds.—*Chickens*.—1, T. Dyson. 2, J. F. Walton. 3, W. A. F. Fenwick. Any other colour.—1, Ambler and Hartley. 2, T. Dyson. SPANISH.—*Chickens*.—1 and 2, J. Roberts. DORKINGS.—*Chickens*.—1, J. Walker. 2, T. Briden. BRAHMA.—*Pootra*.—*Chickens*.—1, R. P. Percival. 2, E. Pritchard. 3, R. Southern. COCHIN-CHINA.—Buff and Cinnamon.—*Chickens*.—1 and 2, C. Sidgwick. 3, J. Walker. Any other colour.—*Chickens*.—1 and 3, C. Sidgwick. 2, R. P. Percival. HAMBURG.—Gold-pencilled.—*Chickens*.—1, G. & P. Duckworth. 2, W. A. F. Fenwick. Silver-pencilled.—*Chickens*.—1, H. Smith. Gold-spangled.—*Chickens*.—1 and 2, G. & P. Duckworth. 3, T. Scholes. Silver-spangled.—*Chickens*.—1, S. Lancashire. 2, H. Stanworth. 3, Mrs. E. S. Milnes. Black.—*Chickens*.—1 and 3, C. Sedgwick. 2, M. Lancashire. POLISH.—*Chickens*.—1 and 2, J. Fearney. FRENCH.—*Chickens*.—1, J. E. Clayton. 2, A. Ogden. 3, F. H. Stricker. GAME BANTAMS.—Red.—*Chickens*.—1, W. Sutcliffe. 2, W. E. Entwistle. 3, E. Walton. Black.—*Chickens*.—1 and 3, C. & J. Hingworth. 2, E. Walton. BANTAMS.—Any other variety.—*Chickens*.—1, E. Walton. 2, J. Walker. 3, T. Dyson. ANY OTHER VARIETY.—1, J. F. Walton. 2, A. Smith. 3, T. Wrigley. DUCKINGS.—*Aylesbury*.—1 and 2, J. Walker. 3, W. George. Rouen.—1 and 2, J. Walker. 3, J. Brookwell. *vhc*. W. H. Rothwell. ANY OTHER VARIETY.—1 and 2, J. Walker. 3, T. Whitaker. GOSSINGS.—1, J. Walker. 2 and 3, T. Mills. TURKEYS.—1, J. Walker. 2, J. Brookwell.

**PIGEONS (District Competition).—CARRIERS.**—Cock.—1, J. Walker. 2, J. Gardner. Hen.—1 and 2, J. Gardner. PORTERS.—Cock.—1, J. Gardner. 2, W. Harvey. Hen.—1 and 2, W. Harvey. BARBS.—Cock or Hen.—1, J. Walker. 2, J. F. C. Mier. TURBITS.—Cock or Hen.—1, R. White. 2, A. Simpson. JACOBINS.—Cock or Hen.—1, J. Gardner. 2, J. Walker. FANTAILS.—Cock or Hen.—1 and 2, J. F. Loversidge. OWLS.—English.—Cock or Hen.—1, R. White. 2, J. Gardner. Foreign.—Cock or Hen.—1, A. Simpson. 2, R. O. Fielding. DRAGONS.—Blue or Silver.—Cock or Hen.—1, R. White. 2, S. Dronsfield. Any other colour.—Cock or Hen.—1, E. Wood. 2, J. Gardner. TOMBLES.—Right.—Cock or Hen.—1, W. Harvey. 2, R. O. Fielding. Any other variety.—Cock or Hen.—2, J. Brown. BELGIANS.—Silver, Dun, Red chequered Short-faced.—Cock or Hen.—1, W. Hilton. 2, J. Wright. Any other colour Short-faced.—Cock or Hen.—1 and 2, J. Wright. Silver, Dun, or Red chequered Long-faced.—Cock or Hen.—1 and 2, J. Wright. Any other colour Long-faced.—Cock or Hen.—1, T. Chappel. 2, J. Wright. Any other variety.—Cock or Hen.—1, W. Harvey. 2, D. M. Gartsipe. SELLING CLASS.—Cock or Hen.—1, R. White. 2, G. H. Crickitt.

**YOUNG PIGEONS.**—CARRIERS.—Cock or Hen.—1, J. Bamforth. 2, W. Deakin. DRAGONS.—Cock or Hen.—1, W. Smith. 2, J. Gardner. BARBS.—Cock or

*Hen*.—1, W. Sutcliffe, jun. 2, J. F. Collier. *ANTWERPS*.—*Cock or Hen*.—1 and 2, J. Wright. **YOUNG POULTRY** (District Competition).—*CARRIERS*.—*Cock*.—1, W. Deakin. 2, W. Lees. *Hen*.—1, W. Lees. 2, W. Nield. *BARS*.—*Cock or Hen*.—1 and 2, W. Lees. *TURBITS*.—*Cock or Hen*.—1, S. Dronsfeld. 2, W. Deakin. *JACOBINS*.—*Cock or Hen*.—1, C. Schofield. *WIS*.—*English*.—*Cock or Hen*.—1, S. Dronsfeld. 2, S. E. Kettlewell. *Blue or Silver*.—*Cock or Hen*.—1, S. Dronsfeld. 2, W. Deakin. *Any other colour*.—*Cock or Hen*.—1 and 2, W. Lees. *BELGIANS*.—*Silver*.—*Dun*, or *Blue Short-faced*.—*Cock or Hen*.—1 and 2, W. Deakin. *Any other colour short-faced*.—*Cock or Hen*.—1, S. Dronsfeld. *Silver*.—*Dun*, or *Blue Long-faced*.—*Cock or Hen*.—1, W. Holden. 2, S. Dronsfeld. *Any other colour Long-faced*.—*Cock or Hen*.—1, W. Hilton. 2, J. E. Platt. *FEMBERS*.—*Cock or Hen*.—1, J. Lawton. 2, W. Wood. *HOMING ANTWERP*.—*Flying Class*.—*Cock or Hen*.—1, J. E. Platt.

**RABBIT**.—*LONG-EARED*.—*Buck*.—1 and 2, T. & E. G. Fell. 3, Schofield and Barrett. *Do*.—1, Schofield and Barrett. 2, Schofield and Barrett. 3, W. T. Millett. *SHORT-EARED*.—1, Schofield and Barrett. 2, H. Woods. 3, T. & E. G. Fell. *ANGORA*.—1 and 2, S. A. Clerk. 3, J. W. Baron. *HIMALAYAN*.—1, T. Chappel. 2 and 3, J. Butterworth. *SILVER-GREY*.—1, Schofield and Barrett. 2 and 3, H. Woods. *ANY OTHER VARIETY*.—1 and 2, Schofield and Barrett. 3, W. Green. *CATS*.—*SMOOTH-HAIRED*.—*Male*.—2, J. C. Knight. *Female*.—1, T. Marshall. 2, E. Dalton. 3, J. Wild.

JUDGES.—Messrs. Teebay and Hutton.

## MALMESBURY POULTRY SHOW.

THIS Show, which was held on the 17th inst., is one of those which improves annually. It began six years ago with just a few pens, and this time there were nearly two hundred pens of really good quality. Mr. John Martin again awarded the prizes, and his awards were very favourably received. The immense distance of Malmesbury from the station is a great drawback to the Show, and though a new line is in course of construction it seems a long time in progress. The birds were under a spacious marquee, and the pens (Turner's) were well littered with chaff. The gems of the Show were, in our opinion, the Buff pullet in Mrs. Allsopp's pen, the Light Brahma pullet in the Marden pen, and the first Rouen Ducks.

*Dorkings*, which came first on the list, were only a moderate lot, they being old birds and mostly out of feather. *Spanish* only made three pens, but all good; adults in good plumage first, and promising chickens second. *Game* were few, and nothing worthy of comment among them. In *Cochins* a good pen of Partridge (adults) were first, both in good plumage, and as a pair we thought them almost the best in the Show, and would have felt inclined to come here for the cup for the first eight classes; second went to Buff chickens, and though the pullet was simply perfection, the cockerel was such a wretch, and had his wings in such a mess, that we would have passed the pen. In *Dark Brahmas* the second were in the best feather, but the first were the largest. In *Lights* the first pullet was extremely good in every way, but the cockerel was small and inclined to yellow. This pen won the cup, and it was certainly here or to the Partridge *Cochins* it should have come. Perhaps it is fair to give the preference to well-grown chickens at this season of the year. Second went to much younger but good chickens. *Hamburgs* were miserably represented; first were fair Blacks, second neat Silver-spangles. *Polands* only made three pens, and the first was again won by good White-crested Blacks; the cock rather yellow, but the hen the one we have so often commented on. Second and highly commended were good pens of Silvers, the second winning from being in better feather. The Variety class was good, capital Silky chickens taking first, and nice Malay chickens second; highly commended (Long) *Sultans* out of feather, and (Feast) good adult *Crêves*. *Game Bantams* were very moderate; first Pile chickens, second Duckwings. The next Bantam class was admirable; first splendid Blacks, second Silver-laced. Pen 11 (Mayo) contained exquisite Silver-laced chickens, but the pullet had a single comb. *Rouen Ducks* were good; the first pair were monsters, and deservedly won the other cup. *Aylesburys* fair, the winners soon claimed at £2 15s. In *Variety Duck* class very lustrous East Indians were first. *Geese* only made two pens, both Grey and both good.

*Pigeons* mustered fairly well, *Carriers* most especially. The Pigeon cup went to Mr. Yardley's black cock, and the award was correct. *Blue Pouters* were first, second going to Whites. *Fantails* were capital, and here is the only class we really differed with the awards, but even here the pens were very equal. In the *Variety* class the cup Hereford Red Turbits won second.

In *Rabbits* a fair black Lop, measuring in ears 20½ by 4½, was first. *Himalays* were poor, and only one prize was awarded. Good *Angoras* won in the *Variety* class both first and second prizes.

In *Cats* *Tabbies* were by far the best. The Long-haired only had three entries, of which we could only find one, and that was rightly deemed unworthy of a prize. A solitary Black won first in his or her class. We furnish full awards below.

**POULTRY**.—*DORKINGS*.—1, J. Gee. 2, G. Hanks. *SPANISH*.—1 and 2, Mrs. Allsopp. *GAME*.—*Black-breasted Red*.—1, E. S. Godsall. 2, H. Feast. *Any other colour*.—1, G. Hanks. 2, E. Winwood. *COCHINS*.—1, H. Tomlinson. 2, Mrs. Allsopp. *BRAHMAS*.—*Dark*.—1, Mrs. Karylge. 2, J. Long. *Light*.—Cup, Miss J. Adams. 2, E. Schammell. *HAMBURGS*.—1, J. Long. 2, H. Feast. *POLANDS*.—1, T. Norwood. 2, J. Long. *ANY OTHER VARIETY*.—1, Rev. R. S. Woodgate. 2, J. Hinton. *BANTAMS*.—*Game*.—1, A. H. Horn. 2, J. Mayo. *Any other variety*.—1, L. G. Mortell. 2, W. Morris. *SELLING CLASS*.—1 and 2, Haddrell. *ANY VARIETY*.—*Cock*.—1, J. Loader. 2, B. Greenhill. *DUCKS*.—

*Rouen*.—Cup, J. Gee. 2, Miss Beak. *Aylesbury*.—1, J. Hedges. 2, T. Sear. *Any other variety*.—1, G. S. Sainsbury. 2, Sinton. *GEESSE*.—1 and 2, G. Hanks.

**PIGEONS**.—*CARRIERS*.—1, H. Yardley. 2, T. Jones. *Cock*.—1 and 2, Cap. H. Yardley. 2, W. D. Richardson. *POUTERS*.—1, H. Yardley. 2, G. Holloway. *Cock*.—1, G. Holloway, jun. 2, P. R. Spencer. *TURBITS*.—1, H. Yardley. 2, P. R. Spencer. *TRUMPETERS*.—1, P. R. Spencer. 2, H. Yardley. *ANTWERPS*.—1, H. Yardley. 2, A. J. Barnes. *JACOBINS*.—1, H. Yardley. 2, G. E. Prentice. *FANTAILS*.—1, H. Yardley. 2, J. Hibberd. *ANY OTHER VARIETY*.—1, H. Yardley. 2, G. E. Prentice. *vhc*, P. R. Spencer.

**RABBIT**.—*LONG-EARED*.—1, R. Madgwick. 2, W. Matthews. *HIMALAYAN*.—1, G. Holloway, jun. *SILVER-GREY*.—1, A. M. Murphy. *ANY OTHER VARIETY*.—1, R. Madgwick. 2, H. C. Holloway.

**CATS**.—*TABBY*.—1, J. May. 2, F. Clark. *BLACK*.—1, D. Tanner.

## DURHAM COUNTY SHOW OF POULTRY, &c.

THIS annual Show came off at Sunderland on the 17th inst., when the entries for poultry, &c., were larger than on any previous occasion. The pens were arranged on the sides of a field in the open air, and the weather being fine the Exhibition was a success.

*Dorkings*, *Cochins*, and *Spanish* were small entries, but the winners good, the cup for section going to a capital pen of Buff *Cochins*. *Malays* of this season produced a good class, and the cup for several classes was carried off by the winning pen, which were unusually good. *French* poor except the *La Flèche*. *Red Game* were mostly old birds, but the first was awarded to a smart pair of Brown Red chickens, the cup going to a grand pen of Duckwings in the next class, which, if we mistake not, were the cup-winners at Otley. Gold-spangles an extraordinary class of old birds, and the cup for *Hamburgs* was awarded here. *Silver-spangles* a fair lot, the first-prize cock uncommonly white. Other *Hamburgs* were a little more shabby in plumage. *Polish*, first Silver, and second and third Gold. In the *Variety* class Black *Hamburgs* and *Silkie*s won. In chickens first, second, and third were Buff *Cochins*, and fourth Brown Red *Game*. *Bantams*, Black or other Reds, were a bad class, more on account of feather and condition than quality, and the variety class, though better, was little improvement upon it, while on the contrary, the variety class was a very good one, the first Blacks winning also the cup for the section, the second Whites, and third Silver *Sebrights*. *Bantams* of this season were a grand class; a very smart pen of *Piles* were first, and Black Reds won the rest of the prizes. *Aylesbury Ducks* were good, but *Rouens* better.

*Cats* as a rule were badly shown, many being entered in the wrong classes, the best of these being the first in the long-haired class.

*Rabbits* produced some fine animals—the Lop class very good; first a Black-and-white doe, on which we have often commented before; second a Fawn-and-white, 22 by 4½; the third a Fawn, 20 by 4½. *Angoras* very good and fine in wool; and *Himalays* a nice lot, and the winners very good in extremities. In the *Variety* class first was a well-known Silver-Cream, and third Silver-Greys, both good.

**POULTRY**.—*DORKINGS*.—1, T. P. Carver. 2, H. H. Cochrane. 3, W. Swann. *COCHINS*.—Cup, 1, 2, and 3, G. H. Proctor. *SPANISH*.—1, R. Shield. 2, H. Beldon. *BRAHMAS*.—1, R. Shield. 2, Anderson & Hewitt. 3, J. F. Smith. *MALAYS*.—Cup and 1, R. Hawkins. 2, W. A. Fairlie. 3, S. B. Perry. *FRENCH FOWLS*.—1, E. Walton. 2 and 3, C. M. Saunders. *GAME*.—*Black and other Reds*.—1, J. F. Walton. 2, J. Cook. 3, Holmes & Destner. *Any other variety*.—1, J. Nelson. 2, J. F. Walton. 3, J. Mason. *HOLMES & DESTNER*.—*HAMBURGS*.—*Gold-spangled*.—1 and 2, H. Beldon. 3, R. Keenleside. 4, T. P. Carver. *vhc*, R. Keenleside, Holmes & Destner. *SILVER-SPANGLED*.—1, H. Beldon. 2, G. Alderson. 3, Holmes & Destner. *GOLD-PENCILLED*.—1, H. Beldon. 2, T. P. Carver. 3, J. G. Walker. *SILVER-PENCILLED*.—1, H. Beldon. 2, D. Clow. *POLANDS*.—1, H. Beldon. 2, T. P. Carver. 3, H. A. Clark. *ANY OTHER VARIETY*.—1, H. Beldon. 2, H. A. Clark. 3, H. A. Cave. *ANY VARIETY*.—*Chickens*.—1 and 2, G. H. Proctor. 3, G. Latimore. 4, J. Nelson. *vhc*, J. Nelson. *BANTAMS*.—*Black and other Reds*.—1 and 2, J. Nelson. 3, T. Dowell. *Any other variety*.—1, J. Nelson. 2, R. Brownlee. 3, T. Dowell. *Any other variety except Game*.—Cup and 1, R. H. Ashton. 2, E. Walton. 3 and *vhc*, Rev. H. A. Hawkins. *Any variety*.—*Chickens*.—1, R. Brownlee. 2, J. Nelson. 3, W. Wardle. 4, E. Walton. *DUCKS*.—*Aylesbury*.—1, E. E. Gibson. 2, M. Walker. 3, W. Stonehouse. *Rouen*.—1, W. Swann. 2, J. B. Moody. 3, J. Nelson. *SELLING CLASS*.—2, J. F. Walton. 3, J. Hudson. *GAME BANTAMS*.—*Undubbed Cock*.—1, T. Clark.

**CATS**.—*LONG-EARED*.—*Male*.—1, Mrs. Briggs. 2, A. McDougall. 3, T. Bell. *Female*.—1, E. Ward. 2 and 3, A. McDougall. *TABBY*.—*Male or Female*.—1, J. G. Froggett. 2, M. Nichol. 3, D. Stephenson. *ANY OTHER VARIETY*.—*Male or Female*.—1, J. Dixon. 2, T. Bostle. 3, L. Tyeddi.

**RABBIT**.—*LONG-EARED*.—1, E. Pepper. 2, J. Handlip & Son. 3, H. Greener. *vhc*, J. Edwards. *ANGORA*.—1, J. Stansfield. 2, J. W. Ibbotson. 3, C. Walker. *HIMALAYAN*.—1, W. Smith. 2, M. Fletcher. 3, T. & E. J. Fell. *ANY OTHER VARIETY*.—1, H. E. Gilbert. 2, T. & E. J. Fell. 3, J. S. Robinson.

The Judges were Messrs. E. Hutton and G. Hall.

## HEANOR SHOW OF POULTRY, &c.

THE fourth Exhibition of poultry and Pigeons was held in Heanor Park on the 15th inst. Grounds more beautifully wooded or adapted for gala purposes it would perhaps be difficult to find, and a splendid marquee with Turner's pens completed the provision for the birds that deserved a much greater display; but the great drawback to numerous entries was the enormous fee charged on each pen, a fee no one with an eye to making their hobby self-supporting would ever think of paying; but this and other matters are to be seen to another year, and with reforms of a practical kind we have no fear of the future of this Society. After all, the entries were much larger than in any previous year, and as an average the quality was high.

*Dorkings* headed the list; a splendid pen of Silvers standing first, with Greys second and third. In *Cochins* was one grand pen of White, the second Partridge, and third Buff. *Brahmas* a bad lot if we except the winners, which were Dark Greys. *Hamburghs* had but one class; first Silver-spangles, second Silver-pencils, and third Blacks, pretty good. *Game* were mostly out of feather, but though in sad plight we recognised some champions, notably the first Brown Reds and Duckwings. *Spanish* were all very good, also *Game Bantams*. *Game* a grand class; first an old pen of Brown Reds, small and gamey and good in colour; second and third small Black Red chickens. In *Game*, any other, all the winners were Piles, and extremely good. In the variety of Bantams first were Silver Sebrights, second White, and third Gold Sebrights. *Ducks* were first Aylesbury, second Rouen, and third Mallard. *Geese* were a good lot, the two first pens old White Embdens, and third a promising pen of Toulouse geese. Mr. Snell won the point cup.

*Pigeons* had but few classes; first on the list were the Carriers, Blacks winning the prizes; the first a very good pair. Pouters, first White, and second Blue. Antwerps very good, the first Red Chequers, and second and third Silver Duns; first very good indeed. Fantails a moderate lot; but Owls grand, White African carrying off all the prizes. Dragons very good; first Yellow, second Silver, and third Blue. Tumblers, first Almonds, second Kites, and third Black Balbs, all very good. The Variety class had nothing good with the exception of the three winners, first Silver Turbits, second Black Barbs, and third Black Jacobins.

*Cage Birds* were a failure; exhibitors will not pay 4s. per pen for a 10s. prize.

Mr. Yardley won the cup for points in Pigeons.

POULTRY.—DORRINGS.—1, W. Roe, jun. 2, H. Feast. 3, Miss M. Murray COCHINS.—1, A. Darby. 2, H. Tomlinson. 3, H. Feast. *vhc.* Rev. R. Fielden BRAHMAS.—1, J. F. Smith. 2, H. A. Barclay. 3, E. W. Snell. HAMBURGHS.—1, H. Feast. 2, S. B. Meynell. 3, E. W. Snell. *GAME*.—Black and Brown-brasted Reds.—1, H. E. Martin. 2, E. Winwood. 3, H. Butler. *Any other variety*.—1, H. E. Martin. 2, and S. J. Calladine. SPANISH.—1, H. Feast. 2, and S. J. Calladine. BANTAMS.—Game, Black and Brown-brasted Reds.—1, S. Beighton. 2, J. Mayo. 3, H. Butler. *vhc.* J. Osoroff. H. Butler. *Any other variety*.—1, J. Osoroff. 2, and S. H. Butler. *vhc.* J. Mayo. *Any variety not Game*.—1, P. Foxwell. 2, H. Feast. 3, J. Calladine. DUCKS.—1, and 2, E. W. Snell. 3, H. Feast. GEES.—1, and 2, E. W. Snell. 3, Dr. J. Holmes. SELLING CLASS.—1, J. T. Parker. 2, W. Roe, jun. 3, H. Butler. PIGEONS.—CARRIERS.—1, H. Yardley. 2, H. Parker. 3, W. Nottage. POUTERS.—1, W. Nottage. 2, H. Yardley. 3, G. Burwarden. ANTWERPS.—1, and 2, H. Yardley. 3, J. Calladine. FANTAILS.—1, S. Swift. 2, H. Yardley. 3, F. Holbrook. OWLS.—1, and 3, H. Yardley. 2, H. Parker. DRAGONS.—1, 2, and *vhc.* R. Wood. 3, H. Yardley. TEMBLERS.—1, and 2, H. Yardley. 3, J. Calladine. *ANY OTHER VARIETY*.—1, R. Wood. 2, H. Yardley. 3, S. Smith. SONG BIRDS.—CANARIES.—Yellow or Buff Norwich.—1, H. Hunt. Crested Norwich.—1, E. Moore. 2, H. Hunt. Variegated Norwich.—1, H. Hunt. 2, E. Moore. GROUP OF SONG BIRDS.—1, H. Hunt.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

## DISEASES OF PIGEONS.

My experience does not lead me to accept your answer to "E. B. T.," in your number of August 17th, as correct. I admit that you can give a Pigeon what would kill a man, and that the dose will have no visible effect, but I deny that the internal diseases of Pigeons are incurable by medicine. I have had many cases of what your correspondent calls inflamed lungs, but which I should call bronchitis, and never seen one recover without treatment.

I have just cured two birds, a Russian Trumpeter and a Pouter. The symptoms were difficulty of breathing, a cough, and a rattle in the windpipe, with occasional coughing-up of mucus and loss of appetite. It is a form of roup, and attacks young birds when just commencing moulting, and sometimes old birds.

They are generally attacked very suddenly. They will take three weeks or a month of attention to get them over it, and of course may die in spite of all you can do for them. The treatment is:—Put them in a large airy pen free from draught, pluck the feathers from the throat and paint twice a-week with tincture of iodine. Give them a teaspoonful of Epsom salts in half a pint of water, and give no other water till they have finished it. Then give a capsule of cod-liver oil and half a Walton's roup pill every night, and cram with soaked beans, dipping one or two beans in each feed in sharp sand, if they will not feed themselves, and pluck-out all the tail feathers. I do not believe that the diseases of Pigeons are hereditary, for the simple reason that diseased birds do not breed.

I have had cases of wing disease and tumours in birds bred from perfectly healthy parents. Wing disease I look upon as incurable, but have been wonderfully successful in treating the same description of tumours on the legs and body with tincture of iodine. I must also deny that any amount of cleanliness or care will keep Pigeons free from disease whether confined or allowed to fly. I have never found homeopathic treatment of any use. Your correspondent will find Fulton's chapters on diseases very useful. The Epsom salts for roup has the best effect, and will sometimes cure a bad case in two days. Never despair of a case of roup. I have a Trumpeter hen that last autumn had it badly for three months however, she even-

tually by constant care and a great deal of physic recovered, won a second prize in January last, and has this season reared eight young birds.

I think the reason of many failures with sick Pigeons is want of perseverance, care, and cleanliness.—J. H. HUTCHINSON.

## NEW BOOK.

*How to Succeed in Poultry-keeping for Profit or Exhibition.*  
By G. W. BACON, 127, Strand, London, W.C.

We have before us this new book, and do not quite know what to say about it, for it seems to us in matter and illustrations merely a *rechauffé* of other works. In many ways it is harmless, and some two or three sections are useful and practical. The original parts give us the idea of having been written by some poultry-keeper who has rather looked upon birds with the eye for profitable table food than in the light of exhibition stock. There are plentiful quotations from the "Poultry Book for the Many" published at our office, from Mr. L. Wright's "Illustrated Book of Poultry," and from other sources, and these pieces are always acknowledged when copied verbatim. We wish the source of the illustrations had been as freely stated, for we can find no notice of their origin. It is palpable to many, however, that they come chiefly from the defunct periodical "The Poultry Review." Among them the best are Mr. Horace Lingwood's Dark Brahma cock, Mr. S. A. Dean's Light Brahma hen, the Rev. Reginald S. S. Woodgate's White Cochins hen, &c.; while the worst is undoubtedly the Buff Cochins cock, which might be of any colour, and the leg feathers are very unnatural. The chapters on "Food and Drink" and the "Rearing of Chickens," though they contain nothing new, are well put together, and contain many hints useful for young beginners; on the other hand, some of the advice offered is positively absurd. For instance, in the chapter on breeds it states, in reference to purchasing Cochins, "Do not select those with clean legs . . . nor with double combs." The youngest amateur surely knows that leg-feathering is one of the chief points of all Asiatic breeds. Mr. James Long is also quoted a good deal, and his classification of breeds is well put together. The breeds are so lightly touched upon that one page suffices for all particulars about Bantams, and it is in such points as these that we feel the work is wanting as a guide for new beginners—*e.g.*, in speaking of White Bantams we read, "neatness of comb" is a special point; but the comb may be double, single, pea, or falling over for all w; can glean from the work. Taking, however, the whole book into consideration we should call it a fairly useful little manual, but perfectly uncalled for in the midst of the cheap poultry literature of the present day.—W.

## THE STEWARTON SYSTEM AND THE STEWARTON HIVE.

THERE are many bee-keepers like myself who keep a few hives to supply their household and their friends with honey, but do not care to have a large number of stocks. They generally follow the non-swarming system, and prefer a moderate amount of super honey in the comb to any amount from a stock hive; but in spite of all their efforts their bees will swarm and increase their stocks beyond the required number, and at the end of the season give them just what they do not want—namely, the trouble of driving, uniting, and, worst of all, breaking up stock hives and running honey. In many cases no doubt the bees are condemned to the sulphur pit. My own system is to prevent my stocks from multiplying unduly by uniting a number of swarms. By this method I also get my deserted supers filled as well as others besides.

It is not everyone who cares to add swarm to swarm in the ordinary way of knocking them out in the evening and placing the hive to which they are to be added over them, with the trouble of placing all right early next morning. To these let me recommend the Stewarton system of adding swarm to swarm. It is simply to hive the swarm to be added to another in a hive or box constructed with bars, with moveable slides between the frames like the Stewarton hive; or, which will answer as well, a flat board or sheet of zinc, which can be withdrawn and placed over the bars. A cheese box perforated with a sufficient number of slits or fitted with bars would answer well for round hives.

The swarm is hived in this prepared box, placed as near as possible to that to which it is to be united, or merely left where it was hived till the evening, and at sunset placed gently beneath the hive to which it is to be united, and the slides or cover withdrawn, whereupon the new swarm will set up a pleasant hum, a sign that they are gladly joining their neighbours in the upper storey. The next morning the hive underneath may be removed, and the partially filled super deserted by the swarm placed on the top of the united stocks. A third swarm, if not too large, say a cast, may be added and additional room given above if the season be not too far advanced. One hive thus treated has given me two fine supers, one 15 lbs. and the other 12½ lbs. I have thus been led to think that for many



amateurs the Stewarton hive will be found far the most easy to manage, and will also afford the most satisfactory results. At any rate, with it stocks can be kept within the number desired, and a large amount of super honey made sure of, and the breaking-up of stock hives with all its abominations avoided.

I will now ask the "RENFREWSHIRE BEE-KEEPER" if he will kindly enlighten us on some points of the Stewarton hive and its management. 1st, Is the Stewarton hive generally managed on the swarming or non-swarming system, or on both? By both I mean—Is the non-swarming system aimed at, and the other of uniting several stocks only resorted to when the stocks swarm against the will of the owner? 2nd, Does the "RENFREWSHIRE BEE-KEEPER" think the ordinary octagon Stewarton hive, or some modification of it, the most useful? 3rd, What is the object or advantage of having the stock boxes in parts each 6 inches deep, instead of in one whole 12 inches deep? Would not one stock box 12 inches deep, with a 6-inch nadir in case additional room was required below for breeding and for uniting, answer equally well? 4th, What is the object of having the supers only 4 inches deep? 5th, What is the advantage of placing the additional super when required on the top of the partly filled super instead of underneath it, it being a common opinion that bees prefer working downwards, and are more eager to fill an interval of space, whereas they frequently refuse to ascend into an empty super.—O. B.

## HONEY RECIPES.—No. 2.

### HYDROMEL, OR DRINK MADE FROM HONEY.

It is more or less sweet according to the proportions of the honey. Different kinds are distinguished by the names of light hydromel and wine hydromel. The light hydromel is the produce of the washing of the wax and of the vessels which have served to run the honey. It is called Mianté Migandelle and Ragouillet in France. The Poles call it Miod, the Germans Meth, the Russians Caproskaa, and the English Metheglyn. The light drink is made thus: For 11 lbs. of honey take from 26 to 52 pints of water, according to the strength you wish to give the drink; boil it in a copper saucepan for an hour or two on a moderate fire; take off the scum as soon as it forms. Remove from the fire, let it cool, and pour it into a clean barrel, which must be quite filled, and place it with the bung-hole open in a dry wholesome place having a temperature from 60° to 68° Fah. At the end of two or three days fermentation takes place. If long in fermenting add a little yeast. It will be active enough in a few days. Take care to fill the cask with liquid out of a bottle previously filled for that purpose. In a month or six weeks the cask may be closed and put in a cellar. The liquid clears, and is soon fit for drink.

To make it from the refuse wax it must be macerated. Bottle it and pour the liquid into a vat; the next day bottle it and pour it into a cask. It will not be long in fermenting. The wax can be steeped in cold water, but the saccharine matter is not so well extracted.

For the fabrication of sweet hydromel take three pints and a half of water to 5½ lbs. of honey, and boil it until it is reduced to nearly a quarter. More than three pints and a half of water may be taken for this quantity of honey, and boiled longer for a greater reduction. It may also be left less time on the fire; then the liquid is less reduced, and consequently weaker. The longer it is boiled the better quality it is. When old, hydromel gathers a crust which greatly augments its value. Old hydromel is a most exquisite and highly renowned wine. There was some time ago at Korowno in Poland a well-known establishment for the manufacture of hydromel, which was sold there, from twenty to thirty years old, at five ducats the bottle. This old and very sweet hydromel was especially sought for the use of sick persons.

**FRUIT WINE WITH HONEY.**—Take ten pints and a half of ripe fruit, which may be either gooseberries, currants, raspberries, blackberries, cherries, plums, or sloes; pound them in twenty-one pints of water, let them steep for four days and then pour off the liquid. Press the skins between the hands and add twenty-one pints of water; let it stand six hours, squeeze the skins hard, pour off the liquid and throw away the refuse. Mix the two liquids together, add 9 lbs. of honey, mix well, put it into a cask which must be entirely filled, and place it where the temperature is from 59° to 68° Fah. The liquid will soon ferment as it works out of the bung-hole, which should be left open. The cask should be constantly filled up with some of the diluted juice reserved for that purpose, and when fermentation has nearly ceased the cask may be securely bunged up. It has a particular aroma, becoming better as it grows older, and is more valuable as a drink than most wines sold by merchants.

Instead of squeezing the juice out of the fruit at first it may be broken in the same way as grapes, then add the water and honey, and let it ferment in the vat until all the sweet matter is transformed into spirit; then press the liquid, put it into a cask, and place it in a cellar. Honey wines keep better in a dry than in a cold or damp cellar. The quantity of fruit may be lessened

or augmented as it is more or less sweet, and the same with the honey as the wine is wanted more or less alcoholic.

The above are translations of recipes for some famous French honey liqueurs.—JOHN HUNTER.

## OUR LETTER BOX.

**PORTSMOUTH SHOW PRIZES (Walter Morris).**—Your remedy is easy in the County Court, for the prizes not paid.

**CHEAP BOOKS (Anxious Gardener).**—The information you desire might be obtained by consulting a catalogue of published books. Messrs. Hardwicke & Bogue, publishers, London, would no doubt inform you as to the cost of works treating on taxidermy, and (as we suppose you mean) petrology—concerning rocks—and not "petrodology," as you have specified the latter. If we mistake not, a work on taxidermy by Mrs. Ward is published at 7s. 6d.

**CANARY FANCIERS (Idem).**—You ask for the names and addresses of two canary fanciers in London. From many others named in the last Crystal Palace Bird Show catalogue we may refer you to Mr. J. Waller, Tabernacle Walk, Finsbury; or Mr. J. Price, No. 90, Fentiman Road, Clapham Road, Lambeth.

**BEES DYING (R. H. T.).**—Your want of success with your bees has come from misfortune, not from mismanagement. Last winter was very severe on bees everywhere in Great Britain. The cold protracted spring of this year prevented bees from breeding early, and perhaps the half of the hives in England were lost from sheer want of bees. You are not alone in your loss, and what you think has been a failure should not discourage you. Last year, too, was an unfavourable one for bees. In answer to your questions we have to say that it is of no importance which way hives look or face. For years we have had many hives facing every quarter, and have discovered no advantage in either south or north, east or west. You did well to cover your hives warmly in winter. We examine our hives often during the working season, and advise all bee-keepers to do the same, and let them alone from beginning of October till the beginning of March. We advise you to remove the supers from your hives now and drive the bees of the old stock hive into an empty one and feed them well. The combs in this hive are too old for keeping, and the bees will do better in fresh hives. If the swarm is not more than 50 lbs. weight after the super has been removed it may be desirable to keep it as a first-rate stock hive. If it be about 60 lbs. weight you could either cut out about 10 lbs. of honeycomb, or drive all the bees at once into an empty hive and feed them into a stock. Hives that are not on the heather will not increase in weight now.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876.	Baromet- er at 8 ft. and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
Aug.		Dry.	Wet.			Max.	Min.	In sun.	On grass		
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 16	29.993	73.0	67.7	N.	70.3	86.1	63.7	123.5	59.7	—	
Th. 17	29.955	69.8	63.7	N.W.	69.2	85.0	58.2	126.4	57.2	0.010	
Fri. 18	29.933	63.8	65.5	N.W.	73.3	73.2	65.8	86.8	61.1	0.199	
Sat. 19	29.883	69.7	65.3	N.	68.0	76.4	61.4	107.7	58.1	0.310	
Sun. 20	29.712	65.4	61.8	S.E.	66.9	71.8	61.3	114.8	59.5	0.197	
Mo. 21	29.895	62.3	61.7	N.	65.0	79.3	55.0	122.6	51.0	—	
Tu. 22	29.888	63.2	61.5	N.W.	65.0	72.4	57.3	116.6	54.7	—	
Means.	29.894	67.5	63.9		67.8	77.9	60.4	112.6	57.2	0.616	

## REMARKS.

- 16th.—Hot morning, though there was a little wind; thunder about 1 p.m.; evening cloudy.  
 17th.—Cooler but a very oppressive day; windy at night.  
 18th.—Thunder and lightning at 5 a.m.; dull day, frequent showers, very damp and close, but no sun.  
 19th.—Rain in the night, but fine morning; rather dull at times during the day; fine evening; lightning in the S.W. at 9 p.m., and a heavy thunderstorm by midnight.  
 20th.—Damp morning and showery day; fine evening and night.  
 21st.—Thick haze early, not clearing off till 11 a.m.; very dark at times all day; stormlike about 5 p.m.  
 22nd.—A very pleasant day, though with very little sun; a fine solar halo between 6 and 7 p.m.  
 The temperature has fallen rapidly during the week, although at this station the rainfall has been slight.—G. J. SIMONS.

## COVENT GARDEN MARKET.—AUGUST 23.

PRICES remain the same, business being quiet. Supplies of Apples are fair, but Plums and Pears are making their appearance in short quantities. Foreign importations consist mainly of Gages, Plums, Pears, Peaches, and Nectarines.

### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	6 to 5	0	Nectarines.....	dozen 8 s. to 12 0
Apricots.....	dozen 1	6	8	Oranges.....	dozen 10 0 to 24 0
Cherries.....	lb. 0	0	0	Peaches.....	dozen 8 0 to 12 0
Chestnuts.....	bushel 0	0	0	Pears, kitchen.....	dozen 0 0 to 0 0
Currants.....	dozen 1	0	0	dessert.....	dozen 1 6 to 3 0
Black.....	dozen 0	0	0	Pine Apples.....	lb. 2 0 to 6 0
Figs.....	dozen 8	0	0	Plums.....	dozen 1 0 to 2 0
Filberts.....	lb. 0	1	0	Quinces.....	bushel 0 0 to 0 0
Gooseberries.....	dozen 0	1	0	Raspberries.....	lb. 0 0 to 0 0
Grapes, hothouse.....	lb. 1	0	6	strawberries.....	lb. 0 0 to 0 0
Lemons.....	per 100 12	0	18	Walnuts.....	bushel 0 0 to 0 0
Melons.....	each 2	0	0	ditto.....	per 100 0 0 to 0 0

## WEEKLY CALENDAR.

Day of Month.		Day of Week.	AUG. 31—SEPT. 6, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
				Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
31	TH		Pocklington and Yarmouth Shows.	71.5	47.4	59.4	5 13	6 47	5 59	0 42	12	0 11	244
1	F		Montrose and Thornton Heath Shows.	71.1	47.5	59.3	5 15	6 44	6 16	1 56	13	0 17	245
2	S			71.0	47.6	59.8	5 16	6 42	6 30	3 12	14	0 37	246
3	SUN		12 SUNDAY AFTER TRINITY.	71.8	47.7	59.2	5 18	6 40	6 42	4 28	15	0 56	247
4	M			71.0	46.7	58.9	5 20	6 38	6 52	5 42	16	1 16	248
5	TU			70.4	47.1	58.8	5 21	6 35	7 2	6 58	17	1 36	249
6	W		Royal Horticultural Society—Fruit and Floral Com- mittees at 11 A.M.	70.2	46.8	58.5	5 23	6 33	7 14	8 15	18	1 56	250

From observations taken near London during forty-three years, the average day temperature of the week is 71.0°; and its night temperature 47.2°.

## THE CULTURE OF ROSES IN POTS.

**R**OSSES are generally admitted to be the most beautiful flowering shrubs of our gardens, and for a number of years both in England and on the Continent they have occupied a large share of attention. Who is there that will come forward and deny that they have not a slight weakness, if I may term it so, for Roses? At all times Roses are strikingly beautiful, but more particularly so during spring and the early summer months, and they are especially valuable for the ornamentation of the conservatory, and I know of no more pleasing sight than that of a house furnished with well-grown specimens bearing luxuriant foliage and well-formed flowers. So well do they harmonise and associate with other spring subjects that it is of their culture in pots for this purpose, as well as for exhibition, that I describe the method that I have adopted with a fair amount of success. Although, as Mr. Douglas in one of his excellent papers said, "it is not given to ordinary mortals to possess such plants as are annually exhibited by Mr. Charles Turner of Slough, and Messrs. Paul & Son of the Old Nurseries, Cheshunt," still creditable specimens may be grown by any enthusiast, even if only the convenience of a cold pit is afforded. I have grown and exhibited Roses for two years with no other convenience than a cold lean-to pit 20 feet by 8. I am not advocating this as the best place to grow them in, for it has many drawbacks compared with a house, but only to show that if no other means exist Roses can be grown in such a pit.

Perhaps never has there been a season when such encouragement has been offered for the cultivation of Roses in pots as during the spring and summer of this year, and never have plants, both large and small, been produced in greater perfection. The admirable collection exhibited by Messrs. Veitch & Sons at the Hyacinth Show at South Kensington in March last was an instance what an effect a collection of small plants will make early in the season. The extraordinary qualities of the flowers exhibited by Messrs. Lane of Berkhamstead at the Alexandra Palace early in May was another instance what may be done by healthy young plants grown in 8-inch pots; and the huge specimens 6 to 7 feet high and as many through shown by Messrs. Turner and Paul & Son at the two May Shows at the Westminster Aquarium, also at the Crystal Palace and the Royal Botanic, were marvellous examples of perfection in Rose culture, such quality of bloom and foliage being scarcely attainable out of doors. The Roses in 8-inch pots, also exhibited by these great champions, embracing all the new sorts of the last two or three years, must verify the fact that almost every Rose, whether Hybrid Perpetual, H. China, or Tea, does well under pot culture; and those who wish to procure a collection in the shortest space of time would do well to go to some nursery where this favourite is made a *specialité* and select as many plants from the subjoined list as means or convenience will admit. Now and during

September will be a very good time to select well-established plants in 6 or 8-inch pots, and such may be purchased at reasonable prices.

As soon as possible after receiving them from the nursery examine their roots, for it may be found that many of them will be benefited by a shift into 10-inch pots. This operation will also enable you to ascertain whether the drainage is in good order or not—a point that is most essential, for the Rose is very impatient of stagnant water at the roots. The following soil will be found suitable to them:—Good strong turfy loam the top spit from an old pasture three parts, the other part of well-decomposed cow manure, or sheep dung if it can be procured; a little leaf mould and a sprinkling of bone dust may be added with advantage. Chop and mix the compost well together and pot firmly, taking care that the plants are moist at the roots before potting them. After potting place the plants in a cold frame, admitting plenty of air by tilting the lights, and on all favourable occasions draw them entirely off. It is not warmth that is required, but a place of shelter from the heavy autumnal rains and very severe frosts. In these quarters the plants may remain until they are started into growth.

It takes, as a rule, from eight to eleven or twelve weeks to bring Roses in full bloom from the time they are started; and if wanted to bloom during May, which is the month in which pot Roses are usually exhibited, the first week in March will be found early enough to start them. Soon after the turn of the new year, say early in January, prune away all weak or watery-growing shoots, and shorten the points of all the shoots, more especially all such as are not well ripened; it is not, however, necessary to prune as hard as you would for a plant growing out of doors. Have a ball of cord or some other tying material in readiness for training the plants, begin by placing a string around the rim of each pot, then bring gently down the point of each shoot to the string; this to be continued until all the branches or twigs are bent back, so that they may be likened to an umbrella turned inside out. This severe training or bringing down of the branches is indispensable, as it regulates the sap and causes each shoot to break right back, which otherwise would not do so. By thus training a foundation is laid for good plants in future years, and the foliage of the plants is made to cover the rims of the pots. This operation must be done very gently, as too great a strain is apt to break the shoots; indeed I have known them to snap occasionally after being bent. It will not be out of place here to mention that some cultivators provide against bleeding by using a composition which is recommended in the "Gardeners' Year-Book;" its principal ingredients being pitch and fat. This is very desirable where Roses have to be started into growth soon after pruning them, and is an useful application.

If plants are not wanted to bloom until May they can be started about the first week in March in a cold pit or in a house set apart for them, and must be encouraged into growth by keeping them close and syringing them two or three times a-day with tepid water. If rain water

is not procurable, always place some pots of water in the sun to prevent that sediment which is so often found on the foliage of plants after using hard water. Keep the plants as near to the glass as possible, and close until the buds begin to burst strongly. As the buds begin to gain strength air must be given as weather permits. This simple work requires more than ordinary caution, as cold currents must be carefully avoided, and often during March we have strong bursts of sunshine with very keen cutting winds. The young and tender foliage is unable to bear these cold draughts, which are the cause, in my opinion, of the mildew. This past season was a very trying season for mildew. This pest must be kept in check by dusting with sulphur on its first appearance, or it will possibly spread all over the plants; so again I say, Carefully avoid all cold currents, and close early to husband the natural heat. In the morning you will be rewarded by finding the edges of the leaves covered with beads of dew, and the plants bearing a fresh and thriving appearance.

When growth has commenced the anxious grower will have to keep more than an ordinary look-out for that most hateful of all pests to the rosarian, the Rose maggot, which coils itself in the half-expanded leaves, and if not detected drills its way into the hearts of the flower buds, which have to be picked off; besides, the foliage will present a riddled and unsightly appearance. Wherever a curl appears there the enemy will be found lurking, and a simple pressure between the forefinger and thumb will soon settle him. Green fly will also be found to put in an appearance at this stage, and the syringe or a smoking or two with tobacco must be resorted to. I have invariably found as the plants gained strength that a good wash at times from a tolerably coarse-rose watering-can was more effectual than syringing.

As soon as the buds appear well above the foliage the plants should be trained into a somewhat flattened bush-like form, which form enables the grower to make a better display of his flowers, besides encouraging a more even habit of growth, taking care to distribute the flower buds regularly all over the plants. For this purpose neat sticks, such as small osiers used in the making of baskets, are suitable, choosing those that have been cut and laid by for some time, these being the most durable, and there is no fear of their taking root and growing in the pots. Place some of these sticks in a slanting position resting on the rim of the pot, and bring the lowest and most forward shoots down to the sticks, securing them neatly (the foliage from these when fully developed will completely cover the rim of the pot), carefully cutting away all the ties made when the plants were first pruned. Secure each of the growing shoots to the sticks, placing them equally over the plant until the desired shape is attained. This training requires both judgment, taste, and neatness; it also regulates or balances the sap throughout the whole plant, and the result is a number of blooms opening at the same time, which should be every exhibitor's aim, and which result could not be obtained were the plants allowed to take their course; the stronger shoots would outgrow and rob the weaker, and consequently bloom first. From the time the buds first appear manure water may be given freely, for when well established the Rose is able to absorb strong stimulants. Cow manure steeped in water in which a little soot is mixed is as good as anything. I have relied more on cow dung and soot this season than on any other manure. I have also successfully used a mixture of cow dung, horse dung, and sheep dung, a basketful of each to about a peck of soot, and a 6-inch potful of guano, the whole being put in a large tub and well stirred; when settled it is fit for use. If thought too strong dilute with water. My plants have always thriven well, carried rich foliage and well-formed flowers. I do not advocate a large quantity of guano; it will, in my opinion, produce large foliage to the detriment of ripe wood and less blooms the following season. Its properties are too heating for the Rose, whereas cow or sheep manure is of a cooling nature.

When the plants have done blooming and the weather has become warmer, say by the middle of May, plunge them out of doors in a bed of coal ashes or cocoa-nut fibre, cut off all dead flowers, and give copious supplies of manure water, or a mulching of rotten dung around them will answer the same purpose, for the watering and rains will wash its virtues in. It is on the summer growth that success mainly depends, and attention must therefore be given to produce it. Watering and frequent dampings overhead after a hot day will help to keep the plants fresh and healthy.

Most of the plants if they have made good growth will re-

quire a shift. This operation is best done from June to September—the earlier the better, as it gives a longer time for fresh roots being made, and the more a plant has filled its pot with roots the better will it be able to stand forcing and stimulants. If it is required to have flowers earlier in the season it will be necessary to prune the plants sooner than already stated, also to introduce them into a genial temperature of 45° or 50°, and if convenient a slight bottom heat of 10° more will materially assist. As the plants gain strength, if thought desirable they may be subjected to a temperature of 60°; but hard forcing should be avoided at all times, for it will be found detrimental to good blooms. The harder the plants are driven the smaller will be the flowers, as well as being devoid of colour.

There are other enemies to the Rose besides the Rose maggot, green fly, and mildew spoken of. The black mildew sometimes makes its appearance and sadly disfigures the foliage, causing some which is badly affected to drop off. For this I know no remedy; but for the orange fungus more air and less moisture will, I think, prevent its spreading.

At the commencement of this paper I suggested that the quickest method of procuring a collection is to purchase established plants in pots; but plants obtained as follows, although not fit for early blooming the first year, still may carry a fair supply of blooms and become thoroughly established the following year. The first step is to take up from the garden some dwarf Roses and put them into 6 or 8-inch pots, taking care to well drain them. Plunge the pots to the rim in a partly spent hotbed, and keep them close for a few days, giving one good soaking of clear water, and dew them over with a syringe on fine days, and in the course of a fortnight they can have air and be treated as for the established plants, only these require to be pruned hard back, and take a year or so longer in making good plants. If large quantities were treated in this way they could be plunged in an open space with sufficient cocoa-nut fibre to keep the frost from their roots and breaking the pots. They would then take care of themselves until the spring, and the rains would supply the same benefits as when planted in the open ground. They could be pruned in the ordinary routine of pruning outdoor Roses.

It is scarcely necessary for me to append a select list of Roses, as nearly all will answer well for cultivation in pots; but the following can be depended on, and each possesses some particular merit:—Anna Alexieff, H.P.; Annie Laxton, H.P.; Mad. La Baronne de Rothschild, H.P.; Beauty of Waltham, H.P.; Boule de Neige, H.P.; Countess of Oxford, H.P.; Duke of Edinburgh, H.P.; Edward Morren, H.P.; John Hopper, H.P.; La France, H.P.; Madame Lacharme, H.P.; Madame Thérèse Levet, H.P.; Madame Victor Verdier; Mdlle. Eugénie Verdier, H.P.; Marguerite de St. Amand, H.P.; Marquise de Castellane, H.P.; Maréchal Vaillant, H.P.; Marquise de Mortemart, H.P.; Paul Neron, H.P.; Paul Verdier; Sénateur Vaisse, H.P.; Victor Verdier, H.P. Among the new H.P.'s that have been conspicuous at this season's pot Rose shows and which are worthy of cultivation are Capitaine Christy, John Stuart Mill, Rev. J. B. M. Camm, Star of Waltham, and Miss Hassard. These will make excellent pot plants.

All the Tea Roses are very effective in pots, but Alba Roses, Catherine Mermet, Cheshunt Hybrid, Madame de St. Joseph, Madame Willermoz, Niphotos, Perfection de Montplaisir, Souvenir d'un Ami, are the most reliable. Céline Forestier among Noisettes, Souvenir de Malmaison of the Bourbons, and Charles Lawson, Paul Ferras, and Juno of the Hybrid China section, are also sterling varieties for pots.

The best twelve are undoubtedly Céline Forestier, Madame Willermoz, Souvenir d'un Ami or Madame de St. Joseph, Cheshunt Hybrid, Alba Roses, Victor Verdier, Paul Verdier, Madame Victor Verdier, Madame Lacharme, La France, Duke of Edinburgh, and Beauty of Waltham. These all possess good foliage and well-formed flowers.

In conclusion, let me say to those who propose specimen-growing that they must have great patience and be exceedingly watchful, for a specimen pot Rose requires a great amount of attention to grow it in perfection, and many details must be attended to which cannot be well taught by writing.—J. W. MOORMAN.

#### CANADIAN WONDER KIDNEY BEAN.

In my opinion this is the finest Kidney Bean in cultivation. It is the only one I am growing this season, and I have made up my mind to adhere to it exclusively in future. It grows about 18 inches high. The pods are produced by the thousand

in long succession. Their average length is from 10 to 12 inches, and when cooked they are tender and delicious in flavour. We have gathered a good dish daily for the last five weeks from a few rows, which in all would make about 30 yards, and the supply is not exhausted yet. For market purposes it would be the Bean before all others. Half an acre of it would produce cartloads of pods.—N.

## LESSONS OF THE SEASONS.—No. 3.

### SPRING.

WITH opening spring comes seed time, to meet and be in readiness for which much previous care and forethought is requisite. The treatment of garden borders and soil which is exposed to the action of the weather has already been explained; let us now go a step beyond this, and see what can be done for such crops as require some shelter and protection during the period of vegetation and the earlier stages of growth in the fields, often severe, weather of spring. Early Horn Carrots, Radishes, Celery, Lettuce, and other salading; Cauliflower and Brussels Sprouts among vegetables, with such herbs as Sweet Basil and Marjoram, and the most delicate and tender annuals among flowers—these are the things to which I would point as being eminently worthy of our best care and attention. Some of the crops to be brought-on as early as may be for a kitchen supply, others to be in readiness for transplantation to beds and borders as soon as can be done with safety, so as to ensure strong growth and early flowers.

To obtain our end every available auxiliary—glass-light, hand-glass, and “protector” is brought into play, the best kind being that which is portable, suitable for its position, and offering no obstacle to the manipulation of the whole of the plants, which should be well within reach from every side. I am gradually accumulating a stock of very useful little span-roofed frames specially adapted to this purpose. They are 21 inches wide, 8 feet long, 1 foot high in the centre, and 5 inches high at the sides; each frame has only six squares of glass—three to each side, large panes of 24-oz. glass being found much better than small thin glass. The ridge bar projects about 4 inches at each end for handles to lift and carry the frame by. These frames, in addition to the important merit of cheapness, possess the advantage of thorough efficiency. They are light, yet very strong and durable; and although they are made of a suitable length to go across a certain border, they are also applicable to a variety of other useful purposes.

To render one quite independent of the weather—or rather to enable one to make use of the frames at any time—there must be a supply of rich sweet soil kept ready at all times for sowing or planting in, precisely such as is used for potting such free-growing plants as Fuchsias in—moist yet not wet, so that when handled it crumbles to pieces freely. For this purpose there should be a soil lodge in every garden, of a proportionate size to the requirements of the establishment, an annual supply being stored therein just about the present time, before the autumnal rains set in. The primary object in the building and storing with soil of such a lodge is to have a sure supply for pot plants, a matter of the utmost importance at all seasons of the year, but especially so in spring, when propagation and repotting come pressing upon us with such rapidity as to make the slightest hindrance a serious matter, not unlikely to have an evil effect upon the results of an entire year. Preference is usually given to a building closed on three sides, but with that which is least exposed to rough weather left open, so as to have the soil constantly subject to the sweetening influence of fresh air. Not many kinds of soil are required. Our first heap should be of light sweet turfy loam; next comes a stack of light upland fibrous peat, then another of very old black-looking manure, then leaf soil as old as we can procure it, with a substantial heap of white sharp gritty sand; charcoal, finely shattered brick, sphagnum, and broken crocks being kept in the potting shed.—EDWARD LUCKHURST.

### ROYAL ASCOT PEACH.

WE have received from Mr. Speed of the gardens, Chatsworth, fruit of the Royal Ascot Peach, with the following communication:—

I send you fruit of the Royal Ascot Peach to give you some idea of its lateness. We commenced gathering Prince Albert Nectarine, which, by-the-by, is the earliest Nectarine I know, on the 26th of June, and Elruge, Violette Hâtive, &c., the first week in July, and we are now gathering the Royal Ascot Peach.

The fruit I have sent you is rather smaller than usual, owing to a very heavy crop. It is a good setter, and has a strong constitution. The flowers are large, and I have enclosed you leaves that you may see the glands. Planted in a late house it would doubtless be later than any other Peach and much better quality than such as Walburton Admirable, Salway, or Barrington.

## WATERING.

IN dry seasons like the present there is always a great deal said and written in the horticultural journals about watering, and I am inclined to think that more than half of it is nonsense. “Peas should have abundance of water, fruit trees should have abundance of water, French Beans ditto,” and so on all through the kitchen garden, flower garden, and orchard. Now, it is quite certain that three parts of the people to whom such advice is given have not the slightest idea of what an abundance of water to a thirsty plant is, and I cannot imagine that the practical experience of the writers of such articles can be quite perfect, or they would be a little more careful in giving their advice. I do not hesitate to say that there is more harm done by watering as frequently practised in the present day in the case of outdoor plants not in pots than there is good. It is utterly impossible, if it were necessary, to apply water in sufficient quantity to do any good to all the plants to which we are recommended to apply it in such a season as the present, and I will attempt to show that it is frequently unnecessary to apply it at all.

First, let us think what is a sufficient quantity of water to apply to thirsty ground when it becomes absolutely necessary to apply it. It is of no use to measure the rainfall of a district for this, for water as applied from the clouds is very different to artificial application. When it rains there is little or no evaporation going on, but when we water outdoor plants artificially the evaporation is often so great that the atmosphere takes up the greater part of the water without its entering the plants at all. Then there is the thirsty ground adjoining that for which the water was intended, which often takes a great deal, so that probably only a very small proportion enters the system of the plants; and just imagine the amount of leaf-surface of a good-sized tree (it certainly would not take a very large one to have a quarter of an acre of evaporating surface), exposed to an atmosphere nearly as thirsty as a red-hot brick.

In our houses we have the atmosphere partly under control, and after some years of experience we find out the quantity of water necessary for any given indoor fruit border, so that we can tell unskilled men, if we can only trust to their honesty, exactly how much water to apply. The borders of my principal vineries may be taken as an example. They are heavier than Vine borders usually are, being composed of nothing but loam and a few half-inch bones, and are nearly 3 feet deep, consequently they do not require so much water as they would if shallow and more porous; but for all that the quantity I consider necessary for one application is about forty gallons to the square yard as far as the roots extend. This lasts them about three weeks, or sometimes a month, according to the state of the outside atmosphere. This be it remembered is indoors, in one of the most perfect houses it has been my lot to see, where we have to a considerable extent control over the atmosphere; and if this quantity is necessary there, I maintain that a fourth of the quantity applied to soil full of the roots of a tree outdoors is worse than useless, unless means are taken to prevent it going off rapidly into the atmosphere. Many vegetables and flowering plants, of course, do not root so deeply, and therefore do not require so large a proportion of water at one time; but it is not often that these are given a sufficiency, and I should not have to travel far to find instances of plants killed this season by watering, which would have survived if no water had been applied.

How deep is the prejudice against watering Peas and some other kitchen-garden crops amongst workmen! What kitchen-garden labourer cannot tell of crops spoiled by watering? Such deep-rooted and wide-spread prejudices are seldom without some reason, and the reason for this one is that nobody waters half sufficiently when they do water, and thereby do a great deal more harm than good.

Deep-rooting crops should not be watered so soon as the surface becomes dry. A dry surface if kept loose is very effective in retaining moisture below, and to wet that surface for 2 or 3 inches down, as is often done with the water-pot, is to



unlock the earth and conduct into the thirsty air the precious stores from the rootlets of the plants.

The soil below the surface should always be examined when practicable before watering, and when water is absolutely required no half measures should be taken. A covering of some dry material after watering is of great service—dry loose soil, dry litter, or in fact anything which will lie loose and enclose a large volume of dry air, will to a great extent prevent the water applied rising into the air and the sun heat penetrating too much to the roots of the plants, thereby diminishing considerably the need for the water-pot. Soils resting on clay, and perhaps some others if covered in this way, will keep sufficiently moist through the driest seasons without any artificial watering.

Outdoor plants will often flag because the atmosphere is dry. There is no help for this, for we cannot water the atmosphere sufficiently, and damping the tops of the plants under such conditions will only do them harm.—WM. TAYLOR.

### S IN THE ROYAL GARDENS, KEW.

ON the Rockwork is a new and interesting hybrid Campanula, one of the many productions of Isaac Anderson-Henry, Esq. This is *C. Haylodgensis*, obtained from *C. pusilla alba* and *C. isophylla alba*, two very distinct species. Their offspring is quite intermediate in point of form and habit, though, being blue, is like neither in colour. The new hybrid will prove a useful rockwork plant on account of its free-flowering qualities, and also because of its neat and distinct appearance. *Oxalis enneaphylla*, though not now in flower, claims a brief mention. It is one of the most interesting of this once-popular genus, and though not decidedly showy is yet very attractive, chiefly on account of its silvery leaves and large white flowers. The leaves are peculiar from having from five to twenty leaflets, though in cultivated plants they are usually about eight or ten. It is a native of the Falkland Islands, and was introduced by the Challenger expedition. *Gladiolus purpureo-auratus*, a showy and handsome species, is remarkable for its golden-yellow flowers. There are purple spots, however, on the two lower segments. It was introduced from Natal by Mr. W. Bull. *Rhexia virginica*, though not new, is extremely rare. It has pretty pink flowers, and is the only hardy Melastomaceae plant we have in cultivation. It was figured on page 4 of the current volume of the *Journal of Horticulture*.

A very fine plant of *Fourcroya gigantea* is throwing up a flower stem in the Succulent house. To be correct, however, it is not altogether in the house, but about 4 feet of the stem is above the roof outside, and is still growing fast. *Sarcostemma Brunonianum*, an interesting Asclepiad, is in flower near the north door. It has long, green, cord-like, pendulous stems, along which clusters of pale greenish flowers are produced at intervals. It grows in Ceylon, and is also common in arid jungles of the Madras Presidency, "where it forms great masses, climbing over shrubs, tree trunks, and stones, abounding in an acid milky juice, and hence eaten by the natives as a salad and sucked by travellers to allay thirst, thus forming a remarkable exception to the usually poisonous nature of the Asclepiadeous juices."—*Botanical Magazine*. The very remarkable *Cactus, Leuchtenbergia principis*, which bears its flowers on the summit of the mammæ, will shortly be in bloom.

Of the finer Orchids now in flower, *Eulophia guineensis* is the least known and most rare. It has several times had eulogistic notice in the gardening papers. The flower spikes are about 2 feet in height, producing numerous flowers of large size. The sepals and petals are narrow, ascending at right angles to the labellum, which is nearly round and of a beautiful pinkish colour. *Dendrobium Pierardi* appears continually in flower; others flowering at the present time are *D. aduncum*, *D. Bensoniæ*, and *D. sanguinolentum*. Several plants of *Cattleya crispata* are in bloom. *Calogyne speciosa*, a grotesque brown flower, is strange in contrast with *C. ochracea*, a very pretty white and yellow kind, which we have before described. *Thunia alba* has been very attractive for some time; it is one of the few Orchids having a graceful habit. *Disa grandiflora* is just now very ornamental. Other cool Orchids in flower are *Odontoglossum crispum*, *Miltonia spectabilis*, and *M. Regnelli*, a very pretty and distinct kind, said to be rare.

In the Begonia house we find *Liebigia speciosa*, a plant not only of great beauty but also of much interest on account of the distinguished chemist whose name it bears. It was imported from Java by the Messrs. Veitch through their well-

known collector Mr. Thomas Lobb, and was figured in 1847 in the "Botanical Magazine," though probably it has been lost to the country for several years. The stems are soft and green; leaves opposite, light green, ovate or elliptical, and covered with rigid hairs. The flower stems are in axillary panicles, few or many-flowered. The flowers are tubular, somewhat Gloxinia-shaped, but rather smaller; the corolla is white, with the tube violet-purple on one side.

In the next house is a fine new Begonia of the tuberous-rooted section, *B. Froebellii*, introduced from the Republic of Ecuador. It is quite distinct in habit. The leaves are all radical, with stems 6 or 8 inches long: the blade is obliquely cordate acuminate, and is covered with hairs on both surfaces. A peculiarity of the flower stems is that they are either male or female, only one sex being produced on a scape. The flowers are about eight on each stalk, and rise rather above the leaves. They are not quite so large as in most of the allied kinds, but are of an intensely rich crimson colour.

### A VISIT TO THE SOUTHWELL NURSERIES.

THE nurseries of Mr. H. Merryweather of Southwell possess many attractions, not only to the rosarian, but also to the general florist and horticulturist, for here, besides thousands of Roses raised annually, there are all the leading sorts of fruit trees, a fine collection of Conifers and evergreen shrubs, forest trees, herbaceous plants, bedding plants, a fine assortment of Ferns, Camellias, Azaleas, and other greenhouse plants, all cultivated with energy and skill, and all kept in a clean and healthy condition.

However, the most attractive feature at Southwell during the month of July was the Roses, and it was these that I specially went to see. I had the privilege, in company with Mr. H. Merryweather, jun., of noting all the valuable Roses both new and old. Captain Christy, a delicate rose, quite new in colour, was in superb condition; it is a fine addition to the light Roses. Mdlle. Marie Cointet is one of the most perfect Camellia-shaped Roses in cultivation; light satin rose, and a favourite with everybody. Louis Van Houtte, a better Rose does not exist; it is grand dark Rose, one of the best of its colour; a fitting Rose for such an honourable name. Xavier Olibo is another grand dark Rose which should be in every collection; it was here in splendid condition. Horace Vernet was quite equal to the last. Madame Victor Verrier is a dark Rose of the Sénateur Vaise type; it is a brilliant rosy crimson, and so good that too much cannot be said in its praise. Marie Baumann was in foliage, shape, perfume, and colour all that could be desired; it was simply perfection. Dr. Andry was splendid; it is a gem of the first water—a perfect Rose. Mdlle. Bonnaire, most delicate blush; the finest Rose that can be found for ladies' bouquets. Pauline Talabot, a dark shade of rosy carmine; promises to be one of the best new Roses of 1874. Pierre Notting, here we meet with an old friend in no way impaired by his age; grand in all respects. Duke of Edinburgh, very fine. Madame Boutin, a beautiful clear Rose, still blooming in grand form; one to be desired. Duchess of Edinburgh was thin in petal and wanting in the general character of a good Rose. Marguerite de St. Amand, beautiful light satin rose, was very lovely, possessing all good properties; it is alike good on the exhibition stand and in the garden. Marquise de Castellane; this—on the Briar, Manetti, or on its own roots—is always alike good. Maréchal Vaillant, very full, with a flaming centre and fine foliage. Dupuy-Jamain, bright cerise crimson, with a suffusion of violet; a remarkable Rose. La France, so prolific and profuse in bloom that it is the one for a single bed, and should be grown in quantity in every garden. Thomas Mills, so bright is the colour of this Rose that it may almost be termed a scarlet; very large, full, and will become a great favourite. Mdlle. Marie Rady, a most perfect gem; fine shape and form. Alfred Colomb, one of the grandest of all grand Roses; this and Marie Baumann should be in every collection. Boule de Neige, very useful as a garden Rose for cut blooms. Abel Grand, a well-formed and good Rose; not so large as many others. Louise Peyronny, this beautiful Rose sustains its character for the exhibition tent; it was exceedingly fine. Hippolyte Flandrin, a Rose of high quality, but neglected; however, it will come to the front again. Madame Hippolyte Jamain, fine foliage; one of the best. Sir Garnet Wolseley, a fine crimson rose, of the character of Exposition de Brie. Crimson Bedder, a new Rose, useful for the purpose that its name indicates. Mdlle. Marguerite Dombrain—what a pity that this beautiful Rose should be of such delicate

habit; it is one of the most beautiful pink Roses in cultivation, very large and full, and the shape perfect. Auguste Neumann, a full-sized, perfectly-formed, dark crimson Rose, the flowers being very erect. Princess Mary of Cambridge, fine silvery pink; a desirable garden Rose, but not quite large enough for exhibition purposes. Mdlle. Eugénie Verdier; in this we have a distinct shade of salmon pink of the Victor Verdier type; a good Rose. Charles Lefebvre; dear old Charles! what a true friend, always alike good. This is the poor man's Rose, the rich man's Rose, and everybody's Rose, so good that it needs no praise; and almost equally good is Sénateur Vaisse.

Of the newer Roses Etienne Levet was a marvel of beauty, the best Rose sent out in 1871; for substance of petal, colour, foliage, and shape without an equal. Miss Hassard, beautiful soft pink, recurved petals, very full, of perfect shape, erect in habit, with fine foliage; unquestionably one of the best English Roses in commerce. Mrs. Baker, a darker shade of Victor Verdier, and a promising flower. Rev. J. B. M. Camm, bright rose, globular, very full, very much in the style of the Marquis of Castellane; a fine exhibition Rose, supposed to be the sweetest Rose in cultivation. Royal Standard, globular, rosy pink, after the style of Emilie Hausburg; a promising Rose. Miller Hayes, scarlet crimson, deepening towards the centre; a very fine Rose. W. Wilson Saunders, intense scarlet, a superb Rose, but scarcely large enough for the exhibition stand. Comtesse de Serenyi, fine recurved petals, delicate blush, deepening towards the centre; a Rose of perfect form, and a fine addition to the light colours. Villaret de Joyeuse, bright rose deepening towards the centre; a promising variety. Reynolds Hole, a very dark rich crimson maroon flushed with scarlet; this Rose is improving, and will become like its namesake a universal favourite. Madame la Baronne de Rothschild, a splendid Rose, too well known to need comment. Madame Marie Finger, a glorious Rose for cut blooms; salmon pink, somewhat deeper than Eugénie Verdier. Alice Dureau, a fine Rose of the Comte de Nanteuil type. Anna Laxton, an improving variety, beautiful bright rose, fine foliage, and well-arranged flowers. Antoine Mouton, a brighter shade of Paul Neron; young blooms are very pretty, but you must not see it open. Auguste Rigotard, glowing rosy crimson with a beautiful violet suffusion; a grand flower. Black Prince, dark crimson shaded black; occasional blooms are marvels of beauty, but I am told they are "like angels' visits, few and far between." Cheshunt Hybrid, bright carmine; the young buds are all that can be wished for; a valuable Rose to mix with cut flowers, and a fine companion for Gloire de Dijon as a pillar Rose. Countess of Oxford, this is a noble flower with splendid foliage. Camille Bernardin, bright red; a flower of first-class quality, very free. Duke of Wellington, fiery red with dark shadings; extra fine. Ferdinand de Lesseps, purple shaded violet, splendid foliage, very fine. François Michelon, beautiful bright Rose of high quality. Frederick Wood, a promising dark crimson Rose. Lord Macaulay, bright crimson; a Rose of a most striking colour, and not sufficiently planted. Madame Clémence Joigneaux, bright rose, rough at times, but here I found it in excellent condition. Madame Fillion, particularly distinct in colour, salmon pink; a very desirable Rose. Madame Louis Levêque, beautiful clear rose, very full and globular. Madame Lacharme; in this beautiful Rose we have the queen of whites; nothing can equal it in bud, and what can equal its pearly whiteness when in bloom? Monsieur Noman; the fresh blooms of this Rose are charming, but are quickly damaged by rain.

The above ends my notes on the Hybrid Perpetual Roses, and I only noted two of the Bourbons—Baron Gonella and Souvenir de la Malmaison. The former is a bright cerise with bronzy shadings, very distinct; and the latter is one of the oldest favourites in the garden; no collection is complete without it, especially for autumn blooms.

Of the Tea-scented Roses the following were the best:—Anna Olivier, a full good Rose. Aline Sisley, deep purple rose, very distinct and useful, good for forcing. Belle Lyonnaise, a very attractive variety of Gloire de Dijon; a most desirable Rose. Catherine Mermet; this beautiful Rose almost surpasses in beauty anything I have met with in the Tea Roses; shape perfect, colour beautiful soft salmon rose. La Boule d'Or, golden yellow; it is useless attempting to describe this "beauty," it is a perfect gem. Louise de Savoie, not a new yellow Rose, but very fine. Madame Jules Margottin, very much like a small Devoniensis with a pink centre; fine for cut buds. Madame Marie Van Houtte; here is another

charming Rose, very light yellow with soft rosy shading. Madame Willermoz, waxy petals; a most beautiful Rose. Madame Caroline Kuster, than which no Rose is more perfect for cut flowers. Marie Guillot, very full, a good addition to the Tea Roses. Niphetos, strikingly beautiful when the buds are half open. Perle des Jardins, one of the finest yellow Roses in commerce. Souvenir d'un Ami, a superb Rose of the very highest order. Souvenir d'Elise, creamy white, large waxy petals of great substance; very fine.

The Moss Roses were all over with the exception of one, Souper et Notting. There were rows of this covered with a profusion of bloom as sweet as any Moss Rose, and very good.

Maréchal Niel I met with in all stages and forms—in pots, on seedling Briars, low standards, and full standards. In one house there is one of the largest trees in the kingdom, from which was cut one morning 1500 blooms; but although it has a stem as thick as an ordinary man's leg, it is now swelling out of the stock and will soon have to be destroyed. Tea Roses are here extensively grown in pots; one house was filled with a fine selection of healthy plants in vigorous health, and many were plunged in coal ashes out of doors.

Speaking of the new Roses of 1875, after a very careful selection I think the following will be among the best French varieties:—Antoine Mouton, Comtesse de Serenyi, Frederick Wood, Hippolyte Jamain, Mons. E. Y. Teas, and Villaret de Joyeuse. The following half dozen are among the best English introductions:—John S. Mill, Miss Hassard, Rev. J. B. M. Camm, Royal Standard, Sir Garnet Wolseley, and Star of Waltham. I am glad to find we are likely to have further additions from our English raisers, which is much to be desired. The following are very promising:—Dr. Hogg, Mrs. Baker, Oxonian, Sultan of Zanzibar, Duke of Connaught, Letty Coles. French sorts, which are also good, are Duchesse de Vallombrosa, Henry Bennett, Jean Liabaud, Madame F. Jamain, Mdlle. Emilie Verdier, President, Leon de St. Jean, and Triomphe de France.

But these nurseries are not entirely confined to the rearing and growing of Roses. There is a general stock of shrubby and ornamental trees carefully cultivated. I noticed fine quarters of Wellingtonia gigantea, and groups of Cryptomeria elegans were growing as freely as the common Larch. Rhus glabra laciniata was so beautifully cut in its foliage that it might be taken for a Tree Fern. Acer Negundo variegata appeared to be growing in great luxuriance, and I may say that we have no hardy variegated plant equal to it. Of variegated and plain-leaved Ivies there was a large stock in fine condition. Clematises I found growing in various forms, but those pegged-down in the flower garden were specially beautiful. To name the best of them would only be telling an oft-repeated tale.

Herbaceous and alpine plants also find here a congenial home. There were Phloxes and Pentstemons in great profusion. Aubrietia purpurea variegata was largely represented; it is a gem for the spring garden. Plumbago Larpentæ had stood out all the winter, and was in full bloom; but the most attractive of perennial plants was Anemone japonica alba, a plant with luxuriant dark green foliage, and a profusion of flowers as white as snow.

In concluding these notes it is only just to say that every part of the nursery was in perfect order, the fruit trees healthy, and the plants in the houses were in good condition and free from insects. This is one of our most promising midland nurseries, and in the Rose season affords an admirable opportunity for forming an estimate of the varieties, for all the new and most of the old Roses are well and largely cultivated, Mr. Merryweather, jun., being an ardent rosarian.—Q. R.

FERN LIFE IN DEVONSHIRE.—"The railway—to the lover of nature—mars the free wild aspect of the woods and fields. But Nature conquers everywhere in Devonshire. Even its iron-lined roads are subdued by the softening influence of plants and shrubs. The Ferns, especially, resent the intrusion of the railway engineers. Dry, hard, bare cuttings may be made through the hills; the turf, Heather, and wild Bracken may be stripped off along the valleys; the lines may be laid down, and everything done to make the scene look as commercial and uninteresting as possible. But the spontaneous influences which produce vegetable life will overcome all this. The rain comes down, and on to the softened earth the grass seeds blow. Thistle and Dandelion will send their germs in light and airy chariots; and Fern spores in countless numbers will find their way where the navvy has ruthlessly stripped off the verdant carpeting to make room for the iron roads. Nature,

indeed, everywhere more or less asserts her sway, and clothes our roads and railways with her charming dress; but it is especially the Ferns with which roads and railways have to contend in the charming county of Devon—the Ferns which carry everywhere a soft and indescribable grace.”—(*The Fern Paradise*, by Francis George Heath.)

### INJURIES BY HAILSTORM.

THE destructive storm that occurred on the night of July 23 wrought such havoc in the district of Tottenham, Stoke Newington, and Hornsey that a considerable amount of personal suffering as well as loss is the result. Those who have suffered most severely are the nurserymen and gardeners, glass houses being wrecked and standing crops crushed. In the interest of the nurserymen and gardeners a subscription has been started by a Committee formed for the purpose, but this subscription progresses so slowly that it becomes necessary to make an appeal to the public. It happens that in the locality where the destruction principally prevailed those who most truly sympathise with the sufferers are themselves losers to such an extent that they cannot do as they would in aid of their poorer neighbours.

It is proposed to raise £4000 at the least, and apportion it in accordance with the recommendation of a survey committee of practical horticulturists who have had experience in the valuation of nursery stock and other outdoor properties. Towards this amount about £500 have been already subscribed, the Baroness Burdett Coutts having generously given £50, while the principal nurserymen have contributed liberally. In a majority of cases where help is needed speedy aid is most important, for in many instances the trade stock for 1877 must be secured before the present summer wanes. Those of your readers who wish to respond to this appeal may forward their subscriptions to the Treasurer, Mr. Shirley Hibberd, Bridge House, Stoke Newington; to any of the branches of the London and County Bank; or to—JOHN FRASER, *Chairman of the Committee, The Nurseries, Lea Bridge Road, Leyton, E.*

### EARLY APPLES.

DURING all seasons early Apples are coveted, but especially during a season like the present are these crisp, juicy, and delicious fruits appreciated. The dearer an article is the more it is valued, and as early Apples have this season been sold at a penny each, that fact is sufficient to render a supply of them desirable. But apart from their scarcity early Apples may be estimated on their merits. They add to the dessert a total change from the soft fruits of early summer. Strawberries, delicious while they last, eventually pall on the palate, and the same in a degree may be said of Raspberries, Currants, and even Gooseberries; whilst Grapes, that princely fruit of almost perennial virtues, cannot wholly satisfy the cravings for fruit, but something more substantial is desired—something crisply sweet and pleasantly brisk, and these qualities are almost exclusively combined in Apples.

It is a remarkable fact that in many gardens where such fruits as Peaches, Nectarines, Apricots, and even Grapes are produced in abundance, the supply of early Apples is quite inadequate to the demand for them. Apples there are which ripen late in the season, but during July, August, and September—the very time when Apples are appreciated—they too often are hanging green and sour on the trees. Even when extensive collections of Apples have been planted only about one tree, or one tree of a sort of one or two of the earliest kinds, have been included, and these, especially in seasons of light crops like the present, have been quite insufficient to produce the desired supply of fruit. In all gardens having to supply families of a considerable size not less than two or more trees of a sort should be planted of the standard kinds of early Apples. Even if the trees at times produce more fruit than is required for the dessert no great fault has been committed, for nearly all early Apples are delicious when cooked, and some of the sorts are free bearers and profitable.

Some of the earliest dessert Apples are rather shy bearers, and on that account, perhaps, they have not been so freely planted as they would have been were they productive. But irrespective of their bearing properties, their earliness and refreshing qualities should ensure them a place in most gardens; and their shyness, so far from acting as a deterrent, should act the other way, and, instead of one, three or more trees should be planted to insure a supply of dessert fruit. I am intimately

acquainted with a nobleman's garden which contained three old trees of the Joanneting which during most years produced a fair sprinkling of fruit, and which was always appreciated. These trees were, however, in the estimation of the gardener inconveniently placed, and after frequent applications made for their removal the owner at last reluctantly gave his consent, a consent which he ever regretted, so greatly did the family miss the crispness and vinous flavour of their favourite summer Apples. This is probably the earliest Apple of the year, and when gathered off the tree it is most refreshing, but it does not keep long, nor is it required to do so when there are other good sorts which immediately follow. It should be grown because of its earliness and desirable table qualities. This kind has many names, as Juneating, Golden Beauty, Ginetting, &c., and unfortunately more than one kind is cultivated under the same name. The true Joanneting is a small

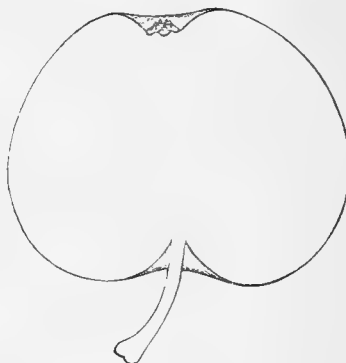


Fig. 21.—Joanneting.

Apple, round and slightly conical, smooth, and of a bright yellow on the sun side, and occasionally tinged with red; on the shaded side it is greenish yellow. The tree is a good grower, and also bears fairly well when grown on the Paradise stock. It is a very old Apple, and from the fact of its having ripened occasionally at the end of June when grown on a wall its name of “Juneating” is by some said to have been derived. Dr. Hogg, however, in his “Fruit Manual” does not believe this to be the correct derivation, and clearly traces the name from Joannina, an Apple ripening about St. John's day, which is undoubtedly, the period of ripening of this favourite Apple. I submit a section of a fair example of the Joanneting, showing its true form. I recommend this Apple as worthy of being grown by all who do not possess it, and as an Apple that is sure to be appreciated during the sultry period of its ripening.

Another valuable early Apple which is by no means commonly cultivated is the Summer Golden Pippin. I have found



Fig. 22.—Summer Golden Pippin.

this to be of the greatest value by its earliness, firm juicy flesh, and sparkling flavour. It is considerably larger than the Joanneting, and the tree is a good bearer. It is dwarf grower, and is well suited for the bush form of culture. When grafted on the Paradise stock it commences bearing when in

quite a small state. The skin is covered with russet dots, and is streaked with brownish red next the sun, the shaded side being pale yellow and shining. It is in use at the present time, and is much prized by the family. This is called the "White Pippin" in some districts, but why I cannot imagine, for its flesh as well as its skin is yellow. I have grown it both on the Crab and Paradise stocks, and it is best in quality from the latter, but the tree is a pigmy, and shows signs of canker. I am afraid—indeed I am certain—that the true kind is not always cultivated under this name. The Apple from which the accompanying sketch was taken was, I believe, a fruit of the true variety.

I have mentioned the above Apples, the one for its earliness, and the other for its good qualities and as not being extensively cultivated, and I now mention a very old favourite, one of the most profitable and valuable Apples that can be grown—the Devonshire Quarrenden. It is now ripe and will continue

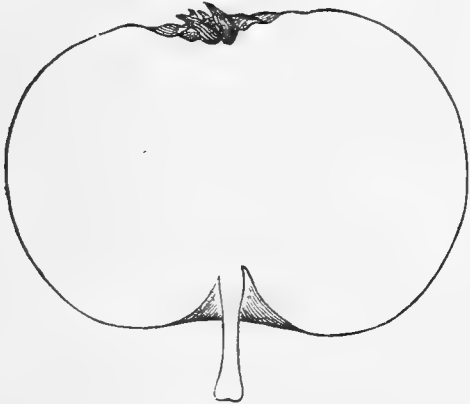


Fig. 23.—Devonshire Quarrenden.

throughout the month. Whether we regard this Apple for its beautiful appearance, its refreshing juiciness, its hardness and great bearing properties, we must pronounce it the king of early Apples, and no garden or orchard can be considered complete which does not contain trees of this excellent variety. It is admirably adapted for orchard cultivation, and will grow in any soil in which other kinds will flourish. It forms a handsome head as a standard tree, and in all favourable seasons its branches are wreathed with crimson fruit—crimson where exposed to the light, but light green where shaded by a leaf, causing the fruit to have a beautiful dappled appearance.

It is one of the best of Apples for home use and for market purposes, and during the present month the supply of it in all the principal markets will exceed that of any other Apple, a circumstance speaking highly of its productiveness and value. And yet this deservedly popular Apple is not grown everywhere, for there are many gardens which do not contain it, and in my district I can say that friends will come and send from long distances to beg, buy, or borrow dishes of my covetable "red-cheeked" Apples. The figure is of a section of a medium-sized ripe fruit, and is certainly the most handsome Apple that I can now send to table.

It is because I have found the Apples named extremely useful and much valued, and because I do not find them by any means in all the gardens which I visit, that I draw attention to them at a time when their qualities are fresh in my memory, and when the period for planting fruit trees is fast approaching.—A NORTHERN GARDENER.

### ROSES FOR TOWN GARDENS.

A CORRESPONDENT, Mr. W. Symon, having sought for information about growing Roses in the vicinity of towns, we publish the following excellent advice on the cultivation of Roses, with well-selected list of varieties, which cannot fail to be useful to those endeavouring to grow Roses in small villa gardens in the vicinity of large towns.

"The smoke of large towns is no doubt injurious to the growth of Roses. Standards do not do so well as dwarf bushes near towns. Choose the strongest growers with the best foliage. I give a list of eighteen or twenty varieties which are likely to do best. Have them budded on the Manetti, and

plant deeply—that is, bury the junction of the scion with the stock at least 3 inches below the level of the soil. Mulch the ground during the autumn and winter till about the first week in April with good stable manure, then take it off, fork the beds gently over, and keep the hoe going through the summer. If the leaves turn black or mildew attacks them give liquid manure—guano and superphosphate dissolved in water about 2 ozs. of each to the gallon; and if much troubled with smoke syringe the leaves with water containing a little soft soap in it, about an ounce to three gallons, following it up before the plants are quite dry with pure water—soft water if obtainable. The leaves sent are suffering from black mildew and a little orange fungus, chiefly caused by the exceeding dryness of the summer.

The best sorts are Alfred Colomb, John Hopper, Fisher Holmes, Mad. Clémence Joigneaux, Gloire de Dijon, Maréchal Vaillant, Marquise de Castellane, Dupuy-Jamain, Mdle. Marie Rady, Abel Grand, Marguerite de St. Amand, Annie Wood, Boule de Neige, Baronne de Rothschild, La France, Princess Mary of Cambridge, Général Jacqueminot, Jules Margottin, Edouard Morren, Etienne Levet, and François Michelin.

In all gardens exposed to the east and north-west winds prune late. Thin out all old and all weak wood, and cut all strong young wood back to four or five eyes. Always try and encourage young wood to be made from the base. Do not mind the plants looking short and small when you have done pruning in April. If the soil has been properly treated in winter you will soon have plenty of growth when warm weather sets in.

Many Roses in small gardens are spoilt by constant dribblings from a water-pot, and others from fear of cutting away too much wood, or from close planting and allowing other plants to crowd them. A golden rule is to give plenty of space; Roses like air, but not wind, and in exposed places should be staked, and protected, which can be done very often by planting bushes, as Yews or Box, on the windward side, care being taken not to let the shrubs interfere with the Roses."—C. P. PEACH.

### GARDENING IN THE OLD WORLD AND THE NEW.

Your Journal reaches even to the "far west," and is welcomed not only as a recorder of progress in the "old country," but as affording much information that is useful even in the "new world." We are here a severely practical people, and ever are on the look-out for that which is useful. The luxuries of eastern life have not yet overtaken us, but we are well in the van of civilisation, and can appreciate a dish served tastefully, provided it contains something substantial. We do not "go in" for table decorations and "colouration," simply for the purpose of making a display, and I am not certain that the "old folks at home" are so ardent in these matters as they used to be—at any rate, when I was lately on the "other side of the water"—i.e., in London, England, I heard sundry allusions to the frothiness, flimsiness, showiness, and change-fulsness of the habits of society. And as we have a saying here that "when a man knows he is a fool there is some hope of him;" so when a fact is realised, and padding and gilded make-ups are recognised, it is a sign that mere glitter is not satisfying, and that the common remark one hears of this or that being "overdone" is a little significant.

When in London I heard on all sides that showing had been "overdone," and that shows did not "take;" that bedding had been "overdone," and there was an inquiry for "old-fashioned" plants; that awarding prizes was being "overdone," and the honours were not properly honoured by the public; that the naming of plants and vegetables was being "overdone," that new names were sometimes given to old articles, and those which were new were not always better than the old; that there was an increasing number of "superbissimas" and "splendidissimas," and such-like grandiloquent superfluities attached to very plain subjects. All that and much more I heard when in the old country. I heard, for instance, that the "new race of gardeners" might "talk finer," but they did not "do better" than the "old standards," the "plain old sticks," who covered our walls with fruit trees—such trees that the "young school" say they have "not time to train;" who planted our orchards, those old plantations of fruitful trees of useful fruits which are yet relied on for the "market supply;" who planted Vines half a century ago, and which yet produce luscious clusters of Grapes; who had great



field days of Pinks and Carnations, Hollyhocks and Dahlias Auriculas and Polyanthus, which the "young 'uns" cannot equal—times of floral refreshing which gladdened many a heart—times of sober joy to those belonging to the "steady plodding school," but which have no reflex in these modern days; but yet even now when the "tide seems to be turning" there are a few left who believe in the "good time coming," when real florists can again meet in congenial conclave and do something more than talk about "bedding Geraniums." The mention of bedding Geraniums brings to mind how these have absorbed public attention, and while the great improvements which have been made in them are admitted, they, even they, are regarded as being super-patronised—"overdone."

But what about Roses? Well, these during my few years of absence have really advanced, the love of them has increased, the cultivation of them has been perfected, and the exhibiting of them has been the scene of many a triumph and many a joy. If anything in the horticultural world has been "overdone" one might think it were the growing and showing of Roses. But no such thing is whispered; none can say anything against a good Rose, the charms of which are above mere taste and the virtues beyond reproach. Yet it is said that many a character of some Roses "written in French" has been "overdone," and that the "new" in Roses is not always better than the "old."

Nor is gardening in the new world better than it is in the old. We have flowers in the far west which are bright for a time, but they lack the continuousness, the freshness, and especially the sweetness of flowers "at home." Yes, England is "home" yet. Whether it is by lack of moisture in the ground, by extreme heat and an arid atmosphere, or all combined, I know not; but I do know that flowers of the gardens and flowers of the prairie do not possess, or at any rate diffuse, the "sweetness of breath" that flowers do in England. And after all they are the "old flowers," which are the sweetest as they are the hardest, the same as "old friends" are the firmest and most constant.

Such have been my thoughts since my return to "the west"—a land where there is no display of pride, where a man is not estimated by the number of rings which he wears, but for the work that he does; where gardening is improving every day; where flowers are spreading, and fruits and vegetables are increasing; and where those who aid in such pursuits which benefit a nation are regarded with that respect which is due to good services.

Of good service has your Journal been to me and many. It has taught us many useful hints, and given us wise counsel for many years. Though England in gardening matters had changed since I first left its shores, I found after a regular perusal of your pages the "old country" just as I expected to find it. Even the very designs of the "carpet beds" seemed familiar, and the sober nests of succulents, the golden lines of Pyrethrum, and the crimson carpets of Alternantheras scarcely evoked surprise as I examined them in "the parks"—parks which have been designed with so much skill, and are managed with so much ability, that, so far as my travels enable me to judge, there is nothing in the "old world or the new" to equal them.

Yes, you are in advance of us in gardening matters, but your advance on your own of a quarter of a century ago is an advance of "display" mainly. Is your present race of rising gardeners equal in solidity, in steady, plodding, working perseverance to those of the "old school"? Are the young training themselves to works of usefulness by thoroughly mastering the principles which govern the "old craft"—are they, in a word, "bottoming the business," or skimming the surface and relying on achieving reputations by "making a show"? If so, and I cannot help having a suspicion that such is the case, I shall continue to seek instruction from the "old hands," and wish them, and you, and all prosperity.—ANGLO-AMERICAN, Lafayette County, Wisconsin.

### BEDDING GERANIUMS.

THE Geraniums in the trial grounds at Chilwell are now showing their true character, and as some of them are better than others for flower-garden decoration, the following classification may be of service to some of your readers:—*First-rate*: Mrs. Turner, Mrs. Augusta Miles, Mrs. Holden, and Amaranth, pink; Dell and Corsair, scarlet; Shakespeare, Col. Wright, and Earnest, red; Rev. T. F. Fenn and Mrs. Mellows, crimson; Edward Sutton and General Outram, dark crimson; Mrs.

Jacoby, salmon; Lawrence Heywood and Mrs. Hole, magenta. *Second-rate*: Pink, Mrs. Ffytch; scarlet, Mrs. Hetley, John Gibbons, Rev. F. Aitkinson, and Mrs. Whiteley; crimson, Sir H. S. Stanhope, Bayard, and Col. Holden; cerise, John Fellows and Little Carr; rose, Mrs. Paget. *Third-rate*: Lady Byron, Lucy Bosworth, Mrs. Rogers, and Lady Sheffield, pink; Louisa Smith, rosy crimson.

It may be remarked that many which are not good for bedding are excellent when grown in pots under glass. Lady Sheffield, for instance, runs to seed immediately the flowers open outside, while in the conservatory it is all that can be desired.—J. M.

### VIOLAS.—No. 1.

THE Violas are an extensive family of plants, for the most part of dwarf or spreading growth, and possessing such a combination of flowers with foliage as to give a greater satisfaction to the eye than the beholding of bright unrelieved masses of colour, which may dazzle and fatigue but do not attract.

In Violas we have the sweet lovely Violet (*Viola odorata*), a native, in purple and white varieties, with the little-differing Russian Violet (*V. suavis*), only flowering at an earlier period. From these, with probably an admixture of the Chinese Tree Violet (*V. arborea*), in purple and white varieties, have arisen our improved varieties of sweet-scented Violets. No one seems to have paid any particular attention to this class of Violas until Mr. Lee of Clevedon took them in hand and gave us Victoria Regina, the best of all the deep blue or rather purple single Violets, being much larger and deeper in colour than Czar, also sweeter, commencing to bloom considerably in advance of that variety. Of Victoria Regina I gathered fine blooms on August the 17th of this year from plants which were rooted runners planted in April last, and these will give flowers until spring. Fine as Victoria Regina is it is far surpassed by Prince Consort, a lighter colour—a blue in fact, with a circular bloom, and of an endurance that has no equal in Violets. It commences blooming at the same time as Czar—namely, October, though I had blooms last year in September. I allude to these because it appears such a pity to cling so tenaciously to old favourites as the Russian Violet when there are others with very much larger, better shaped, and equally sweet or sweeter flowers, and stalks that admit of the flowers being readily bunched, and therefore more serviceable and enduring. No flower meets with readier acceptance and appreciation than the Violet.

The Pansy or Heartsease is another of the Viola family, associated with our earliest recollections. From the common Heartsease or Herb Trinity of our fields have been obtained by sowing and hybridising with other species the numerous varieties of the popular florists' Pansy. Viola tricolor varies considerably in a wild state, and has been greatly improved by the skill of the cultivator and hybridist. Most normal forms under high culture increase in size both of foliage and flower, and it is in these variations that occur sports—or departures from the original—which it has been the care of the cultivator, when the breaks were improvements on the parents, to foster and increase. It is hardly possible to take in hand any species of plant, especially of plants which are increased freely from seed, without improving its size and beauty. It is only a few years since the Viola cornuta became prominent through the efforts of Messrs. Wills, Bennett, and others, and after the lapse of a few seasons we are presented with varieties which for form and size are scarcely distinguishable from Pansies—in fact, some of these are no more like *V. cornuta* and *V. lutea* than are the bedding Pansies like *Viola tricolor*.

The genus Viola naturally divides itself into two sections—namely, the Violets and the Pansies. The Violets have the leaves mostly heart-shaped, though the foliage is occasionally pedate (*V. pedata*), and palmate (*V. palmata*), proceeding directly from the root or stem without forming a shoot, and perennial, the stem increasing slowly and upright, forming what are recognised as "trees," and are continued by runners rooting at a distance from the parents. In *V. cucullata* the plant is furnished with a tuberous root-stem from which arise the leaves and flowers without a stem above ground, producing only leaves and flowers. It is deciduous, losing its leaves in late summer; it is the latest blooming of the Violets, and continued this year into June. The variety I have is Mr. Lee's, there being several types or varieties of this the Hooded Violet. The flowers are large, of a deep purple colour, and very numerous. Unfortunately it is inodorous, but neverthe-

less is fine for moist yet well-drained slightly shaded rock-work, and for the open border in rich light well-drained soil. All the Violets have as compared with Pansies stout root-stems increasing with the age of the plants. In Violets the seed capsules seek the soil, their stems becoming prostrate—lying upon the ground with the mouth of the capsule downwards, but rising again when the seed ripens, and the capsules open. The capsule is much more round in Violets than in Pansies, and the valves are consequently more elongated. In Violets the leaves proceed from the root, or if from a stem they are opposite and simple, whilst in Pansies the leaves are alternate, simple, and furnished with permanent leaflets at their base, none of the Violets having leaflets at their base. The calyx in Violets is imbricate, in Pansies valvate. In the direction of the flowers Violets are more or less drooping and hooded, Pansies oblique. In Pansies the stems are annual, and are replaced by others from the root—i.e., suckers; in Violets the stems are perennial.

I will now remark that Violets remain as they were. No improvement has been effected except that resulting from cultivation and selection, and it is equally certain that no union has taken place between Violets and Pansies. Of the latter I propose to offer a few further views and cultural hints.

It is possible that the genus *Viola* may admit of division into more than two sections. Be this as it may, it appears pretty clear that *Viola cornuta* of Switzerland, *V. calcarata* of the Alps, and *V. grandiflora*, have an affinity to or for our *V. tricolor* and *V. lutea*, subjects not very distantly distributed as to climatic conditions. When we consider the freedom by which *V. tricolor* suffered itself to be ennobled into Pansies, —the credit thereof being due to a lady, Lady Mary Bennet, daughter of a late Earl of Tankerville, who in a small flower garden at Walton-upon-Thames in 1810 or 1812, assisted by the gardener, Mr. Richardson—we cannot help being astonished at the result. Mrs. Loudon in her pleasing sketch of the history of the Pansy in her "Gardening for Ladies," tells us about the great variety and beauty of the seedlings. The trade, in the person of Mr. Lee of Hammersmith, saw the advantage to be derived from the improved culture of the Pansy, and other nurserymen kept the "ball a-rolling," imparting to the flowers size, form, substance, purity of ground, and distinctness of colour, until the angular-petaled *Viola tricolor* could scarcely be recognised as the progenitor of the popular florists' Pansy.

It were not to be expected that a profusion of flowers destitute of good shape would be tolerated. Plants now employed for decorative purposes must be not only beautiful in the mass but have individual flowers which will bear the closest scrutiny. A species would no more be tolerated in a choice selection of Pansies than a Dog Rose in a border of Roses such as that selected from the Rose election; and no florist could view a *Viola*, much as he may admire its beauty, without setting to work and resting not until it be converted into his ideal of beauty.—G. ABBEY.

### SANDY AND DISTRICT FLORAL AND HORTICULTURAL SOCIETY.

THE eighth annual Exhibition of this flourishing Society was held on the 25th inst. in the park of Sandy Place, the residence of J. N. Foster, Esq., and it would be difficult to find a more suitable place for such a gathering, the park being studded with fine old trees, which in hot weather form a very inviting retreat to visitors. The well-ordered grounds of Mr. Foster were also thrown open to the public; the day was fine, and a large and fashionable company assembled.

The different exhibits were arranged in eight large marquees dispersed about the grounds. There were classes for farmers' grain, roots, dairy and other produce, market gardeners, cottagers, amateurs, gentlemen's gardeners, and nurserymen; poultry, cage birds, dinner-table decorations, &c. The Show throughout was a good one, although the vegetables were not so numerous as in former years, owing in a great measure to the late hot and dry weather, but those shown were of good quality. The show of fruit and flowers was very satisfactory, although there was a falling-off in plants, the collection of Mr. House of Peterborough not arriving owing to a breaking-down on the road.

There was a large show of Potatoes, and the way in which some of them were judged is worthy of imitation. They were boiled, some being peeled and some having their skins on. In this competition Early Rose carried off first honours. This variety is becoming very popular in this neighbourhood. The honey was a grand show, the premier prize going to Mr. Samuel Thorne, sen., Ashwell, Herts, for a glass super weighing 101 lbs.;

the second prize going to Mr. James Thorne, Ashwell. There were five entries for dinner-table decorations, the first prize going to Miss J. Pearson, The Hassels, Sandy; the second prize to Mr. Richardson, Sandy Rectory. In the market gardeners' class some good Onions, Carrots, and field Cucumbers were shown, the first prize for six Cucumbers going to Mr. D. Dickens, Old Warden. Heads of Onion seed were shown in sizes.

In cut flowers, Asters, Dahlias, Verbenas, &c., were not so good as usual, but noticeable were some stands of very fine African Marigolds. Roses were both scarce and poor except in 48's, and in this class Mr. Prince of Oxford staged good blooms.

Collections of vegetables in eight varieties were good and well arranged, as also were the collections of fruit in six varieties. The show of Grapes was not large but good, the first prize going to Mr. Telbrook for two well-developed bunches of Black Hamburgh, but rather deficient in colour. Good bunches of Muscat of Alexandria were shown, but in an unripe state. The show of Red and White Currants and Gooseberries was very good. There were nine dishes of Cherries, twenty-six dishes of Plums, and forty-two dishes of Apples, the first prize going to Bedfordshire Foundling. Several good dishes of Tomatoes were shown. Of Cucumbers there were eighteen brace of immense size, but, as a rule, coarse. Tender and True carried off the first prize. Peaches and Nectarines were good, and the same may be said of Melons, of which seventeen fruits were staged. Owing to the delay in making the awards the names of the successful competitors could not be obtained.

### ANNIVERSARY OF THE WIMBLEDON GARDENERS' SOCIETY.

THE second "session" of this new and flourishing Society was opened on the evening of Friday, the 25th inst., by about fifty of the members, who celebrated the occasion by a "knife and fork entertainment," and after proceedings which may be described as socially educational. This institution is worthy of note, and a brief recapitulation of its establishment and progress may be usefully given, as affording encouragement to gardeners in other districts seeking a wholesome mode of uniting together for self-improvement and the general advancement of the craft in which they are engaged.

As to the desirability of gardeners meeting together to discuss congenial topics there cannot be a dissenting voice, provided that the same strict care is taken as at Wimbledon to eschew even a savour of that peculiar kind of "unionism" which has destroyed so much good feeling between employers and employed which formerly existed. At Wimbledon, as Mr. Ollerhead took occasion to say, "the objects of the members of the Society were at first misunderstood, and the union of the gardeners was interpreted by some as a union of that kind which the best of employers regard with abhorrence, as also did he as a gardener, and equally did the friends acting with him in re-establishing the Society. Their sole object was self-improvement, their one and only desire being to become more proficient in their calling—to become, in fact, better gardeners, and so render their services more acceptable to those having or requiring them. That was their sole aim and ambition, and they had no ulterior object in banding themselves together. Since their motives had been better understood, aids in the way of gifts of books, &c., had been forthcoming, and he felt sure that the Society would be so conducted as to secure further patronage and assistance from those who would in the end share in its benefits in having the services of competent gardeners, or those engaged in adopting every means at their command in making themselves proficient."

Such sentiments have the right ring about them. That they were expressive of the views of all the members assembled was clearly manifested. A society founded for such an excellent object is certainly worthy of support, and is almost equally certain to be supported. Were similar efforts made in other districts to enhance the knowledge and improve the status of the gardeners good could not fail to result therefrom. It is not, however, every district that contains a sufficient number of gardeners in a limited area to form a society which can be self-supporting; but in some localities this obstacle may, perhaps, be surmounted by co-operating with some already established kindred institution, and in this respect the establishment of the Wimbledon Gardeners' Society affords a useful lesson.

At Wimbledon there had been a gardeners' society for some years, but it was weak and in a measure effete. Sir Henry Peek kindly permitted the few members to meet for discussion in the young men's rooms in the gardens at Wimbledon House. The members attending these meetings not being so numerous and active as desirable, Sir Henry spoke to his gardener, Mr. Ollerhead, by way of resuscitating the Society, and suggested the possibility of making arrangements with the Committee of the village Reading Society for the use of their lecture hall. This being in the ordinary course of business too costly, it occurred to Mr. Ollerhead to enter into an alliance with the

village Society, and eventually it was decided that if thirty gardeners could be induced to enrol themselves, the managers of the village Institute would accept them as ordinary members, and, in addition to the general literature would provide them with a certain number of gardening periodicals, permit them the use of the lecture room for the reading of papers and for discussion, and allow them to establish a library of gardening books. The stipulated number of members soon became doubled, and the gardeners became a source of strength to the Society which opened its doors to them, and thus assisting it more completely to fulfil the purpose for which it was established—as an institution for the general improvement of the industrial classes of the district.

The alliance has been most successful. The Committee and Secretary of the Institute have rendered every assistance and granted every facility in their power for the gardening contingent, and the gardeners have already formed a library including the most practical and useful books in publication. These advantages—the garden and general library and reading room—are at the disposal of all gardeners for the easy subscription of 5s. per annum, and in order to participate in them some members come long distances to attend the meetings and discussions. Especially is this so with head gardeners, who have been quick to perceive the advantages offered, and it is to be hoped that all the young men of the district will follow the excellent example that has been set them. Acting alone and without the aid of the village Institute the Gardeners' Club could not have been in the satisfactory condition that it now is, and without the gardeners the Institute could not equally well carry out the intentions of its founders and managers. Thus the alliance has proved one of mutual help, strength, and benefit.

The success of the amalgamation may well be recorded, for the plan which was adopted, and which has been carried out so well, is adaptable to other localities, and similar attempts at self-improvement cannot fail in adding to the benefits of those who are especially desirous of seeing competent and prosperous—the gardeners of Britain.

The opening meeting was a very enjoyable one, and an impetus was given by the remarks of the various speakers to the strengthening of the Society, and making it additionally useful and flourishing.

Mr. Wright of the *Journal of Horticulture* was called upon to preside at the meeting, and was supported by Mr. Gordon of the *Gardeners' Magazine*; Mr. Casswell, the Secretary of the village Institute; Mr. Kinghorn, Sheen Nursery, Richmond; Mr. Ollerhead, gardener to Sir Henry Peek, Bart.; Mr. Lyon, gardener to A. Schlusser, Esq.; Mr. Moorman, gardener to the Misses Christy, &c.

### THE ROSE ELECTION.

I SHOULD be glad of all replies to this as soon as possible, as I am anxious to get the result out before the end of September, and I shall therefore be extremely obliged to all those who intend to kindly assist if they will send me their lists without delay.

1, Name what you consider the best fifty Roses in cultivation, underlining the best twenty; and

2, Which do you consider the best stock for Roses?—  
JOSEPH HINTON, *Warminster*.

### ASPECTS OF NATURE.—AUGUST.

Of all months of the year August is richest in colour, for not only are the hues of the wild flowers more brilliant than in spring, but the fields of golden grain are at their brightest and offer a splendid contrast to the surrounding greenery of hedgerow, copse, and wood. The reaper cuts both corn and flowers, and beneath his glittering scythe or sickle fall some of the most beautiful blossoms of the floral garland which twines with an unbroken chain the circle of the months. Spenser thus describes August—

"Being rich array'd  
In garments, all of gold down to the ground,  
Yet rode he not, but led a lovely mayd  
Forth by the lily hand, the which was crown'd  
With ears of corn, and full her hand was found."

Full indeed during this most bounteous month, when not only the cultivated fruits are ripening in every orchard and on every garden wall, but when the clusters of Hazel nuts begin to gain a deeper tint, when the Bramble has its white or pinky-white blossoms, and its pleasant fruit changing from green to deep purple.

In the corn field the most gorgeous flower of all is the Corn Marigold; indeed, during this glowing month a bouquet of wildings—as rich in colour, if neither so sweet in perfume nor so large in size as the more favoured occupants of the parterre—may be culled. For gold we may gather the brilliant Corn

Marigold or yellow Oxeye; for blue, as bright and beautiful as though reflected from the unclouded ether above, the Centaurea Cyanus, known by so many names—Cornflower, Hutsickle, Blue-bonnet, and which the poet has apostrophised as Love's Oracle.

"There is a flower, a purple flower,  
Sown by the wind, nursed by the shower,  
O'er which love breathed a powerful spell,  
The truth of whispering hope to tell.  
Now, gentle flower, I pray thee tell  
If my lover loves me, and loves me well,  
So may the fall of the morning dew  
Keep the sun from fading thy tender blue."

For deep crimson the splendid blossoms of the Saintfoin, which, though it is a cultivated plant and much beloved of the farmer for fodder, still escapes and grows up in odd places; for the white the effective Ox-eyed Daisy may be chosen. We may gather such a nosegay from plants that grow on either side of many a field path, and nothing will excel its brightness.

Where such strong contrasts are not desired the hedgerows offer numberless plants, less conspicuous doubtless, but scarcely less beautiful, being distinguished by variety of form, colour, or peculiarity of habit. The field *Convolvulus* now covers many a waste place, clothing with beauty the most unpromising spots, and displaying its pretty pale pink petals day after day, as though the store was endless. But the *Convolvulus arvensis*, delicate and pretty as it is, has a favoured rival in the splendid large white Bindweed of the hedgerow, which grows so profusely and luxuriantly. A pretty effect may be produced where this wilding is abundant in garden hedges by placing a few pea-sticks for it to run up; the *Convolvulus* will twine gracefully around the sticks, and will repay the kind attention by forming a screen of graceful green leaves and snow-white flowers until frost comes to cut down unnoticed weeds and carefully tended blossoms indiscriminately.

On the chalky cliffs which round in the Bay of Broadstairs, in the Isle of Thanet, the beautiful crimson flower commonly known as Rambling Widow grows in profuse red patches of bloom, which hang over the edge of the cliffs towards the sea. In the same district also, but not quite so near the sea, the lovely blue flowers of the wild Chicory and the pale lavender Scabious—which has so little in common with the cultivated variety, wanting both its velvety appearance and Musk-like scent—may be gathered. The Red Campion is a pretty flower, though its bloom has a somewhat loose and rugged appearance; but it is little known, being outvied in brilliancy and popularity by the scarlet field Poppy.

The common yellow Goat's-beard of the fields is in many places known only by the characteristic term of "Go-to-bed-at-noon," from the opening and closing of its flowers at certain hours of the day, and which inspired Linnæus with his idea of a botanical clock. Mrs. Hemans has perpetuated the remembrance of the *Horologium Floræ* in the following beautiful lines:—

"From such sweet signs might the time have flowed  
In a glorious current on,  
Ere from the garden, man's first abode,  
The glorious guests were gone.  
"Yet is not life in its real flight  
Mark'd thus—even thus—on earth,  
By the closing of one hope's delight,  
And another's gentle birth?  
"Oh! let us live, so that flower by flower,  
Shutting in turn, may leave  
A lingerer still for the sunset hour,  
A charm for the faded eve."

The Marsh-mallow may now be seen in full flower, and where the petals have fallen the country children pick the round flatish seed vessels and call them cheeses. In France the Marsh-mallow is very highly esteemed as an emollient in cases of slight cold or cough, and every nurse and every housewife knows how to make Tisane de Mauve and Tisane des Violettes, both sovereign domestic remedies in constant request during the uncertain spring weather.

Some of our summer visitors now begin to leave us. The swifts are the first, evidently liking to live in a perpetual spring, for as yet these cannot be driven from our land for the lack of food, for the air is filled with insect life, nor has the warmth of the atmosphere diminished, except during the night. The rooks also, which have remained abroad during the hot evenings of summer, now return to roost in their nest trees; and the robin, which has with the rest of the merry songsters been silent some time, resumes towards the close of the month his warblings, to cheer the shortening days with his lively winter notes. The warm autumn nights, when no leaf is

stirring and all nature appears hushed in repose, is the season when the shrill chirp of the cricket is heard striking somewhat discordantly on the perfect quiet of the air, which can scarcely be said to be disturbed by the trumpetings of the innumerable gnats,

"Which, drawn by milky steams at evening hours,  
In gather'd swarms surround the rural bowers.  
What time the glad some nymphs in chorus sung,  
Rose-gilded legions glittered in the sun."

When the corn is gathered and the harvesters rest for a while from their labours the work of the sportsman begins; but on the breezy hill sides and among the purple heather on the moors, where, during the still warm days, the grouse and the plover have reared their young broods, the report of the death-dealing gun is heard, and terror and dread reign where so lately all was peace and happiness.

We see the changes of the month as each follows each in turn; we note the distinguishing plants that come and go—the insects that are awakened to life in the spring, that buzz during summer and disappear during autumn—while we almost forget the little flower with silver crest and golden eye which blooms always and everywhere, which "hides in the forest, haunts the glen," grows along the margin of the dusty road, blooms undisturbed over the graves of those who rest in peace in God's acre, and ever perks up its little head on every trodden spot in close vicinity to towns and cities.

"Tis Flora's page—in every place,  
In every season fresh and fair;  
It opens with perennial grace,  
And blossoms everywhere.

"It smiles upon the lap of May,  
To sultry August spreads its charms,  
Lights pale October on its way,  
And twines December's arms."

—T. S. J.

## WOLLATON HALL.

THE RESIDENCE OF H. AKROYD, Esq.

WOLLATON HALL is situated about two miles and a half west of Nottingham. It occupies a commanding position, and can be seen in almost every direction. It is in the centre of a grand old park of seven hundred acres, which is enclosed with a brick wall from 7 to 10 feet high. The Hall is approached from Nottingham either by the way of Lenton or by Old Radford, the latter affording the readiest access to the gardens. The Lenton entrance is by a lodge of commanding proportions, and in character with the noble structure within the grounds.

It is impossible to approach the mansion on either side without being struck with its magnificent proportions and the richness of its details. It is supposed to be one of the most beautiful mansions of "England in the olden time." It is entirely built of freestone, which came from Ancaster in Lincolnshire, on the backs of horses, in exchange for coal produced by the mines of the estate. The building is square with four large towers adorned with pinnacles, and in the centre the body of the house rises higher, with projecting coped turrets at the corners. The front and sides are adorned with square projecting Ionic pilasters. The interior is on a grand scale, has many stately apartments, and contains a very extensive and valuable collection of paintings by the best masters. Every front of the main building and every side of every tower is richly decorated, so as to present a very superb whole. The park is broken into gentle swells, and in some parts is beautifully wooded, admitting some picturesque and extensive views of the surrounding landscape. It is well stocked with deer, and from the flower garden is seen a fine sheet of water enlivened with swans and other aquatic birds.

Passing by the west side of the Hall there is a sunken way, which lies between the Hall and the stables, and being overhung with shrubs and trees it is entirely hidden from view. This road leads to the large conservatory at the south-west corner of the Hall, and the flower garden in front falling gently towards the park. Between the conservatory and the gravel walk there is a broad ribbon border filled with spring flowers, and though when seen it was past the middle of June it was a sheet of floral beauty. Beginning at the back there were two rows of Cliveden Blue Pansy, then two rows of *Viola lutea* followed by two rows of red Daisies, then a row of *Arabis variegata*, next a broad band of *Aubrietia*, succeeded by a row of *Saxifraga umbrosa* with another row of Golden Feather Pyrethrum, then *Sempervivum californicum*, and the outside row of *Saxifraga hypnoides*. The flower beds were also all aglow with spring flowers, and for general effect Mr. Gadd

depends more on Pansies than any other plants. There were many mixed beds, but Pansies were the chief feature. I noticed one large bed of Pansy Purple Prince, very effective; another of Purity, equally good; another of Chrome Yellow, all masses of bloom. Then there were several beds filled with dark seedling Pansies which were very gay and attractive. Other beds were filled with Daisies of sorts, *Aubrietias*, Golden Pyrethrum, Imperial Blue Pansy, and the Variegated Thyme. Among the many plants used for the embellishment of the spring garden there is none more effective than the Variegated Thyme, *Thymus citriodorus aureus marginatus*. On a narrow strip of grass that skirts the park I observed several long narrow beds planted so as to match with each other. The outside row was *Veronica incana*, with an inner circle of *Aubrietia*, next Golden Pyrethrum, then a ring of Forget-me-not, and the centre Wall-flowers. The flower garden is well sheltered on each side by banks of evergreens and *Rhododendrons*, the front of it being open to the park.

Turning into the conservatory I found a fine collection of *Camellias* planted in the borders, many of them being 8 and 10 feet through and 10 and 11 feet high. I cannot enumerate all the noble specimens, but amongst them were *Chandleri* 13 feet high, Countess of Orkney, *Mathotiana*, *Mathotiana alba*, *Contessa Lavinia Maggi*, *Lady Hume's Blush*, *Imbricata*, *Double White*, and many others. From the roof was suspended the charming *Maréchal Niel* Rose, *Bignoniads* and *Tacsonias*. To the left of the conservatory is the Rose garden, but I was there too soon to see the Roses in beauty. This garden is encircled with *Rhododendrons*, which were in full bloom, and these were backed with fine old Cedars of Lebanon, which were interspersed with *Lucombe Oaks* and grand old Yews. Following this walk we come to a fine piece of open lawn, studded here and there with excellent specimens of *Cupressus Lawsoniana* and one or two specimens of Purple Beech that it would be difficult to surpass. Coming to the terrace walk, on the left there is a broad bank of *Rhododendrons* about 9 feet high and 10 or 12 feet wide, and now and then a white Broom jutted out from amongst the dark foliage and mass of bloom; and down the centre is a row of standard plants of *Acer Negundo variegata*. At the termination of this walk a fine prospect opens on the vision. There are avenues of Elms and Limes radiating in various directions, with the deer reclining beneath their umbrageous branches, giving the whole scene a charming park-like appearance. Turning to the left we ascend the upper terrace, and now the fine architectural proportions of the mansion come out in all their magnificence. In proximity to the mansion I observed some venerable Oaks and Cedars, and one copper-coloured Beech was 225 feet in the circumference of its branches. In the park is an evergreen plantation consisting of *Piceas*, *Wellingtonias*, and other choice Conifers, each having been planted by some member of Lord Middleton's family.

The kitchen gardens and forcing departments are some little distance from the mansion. Near Mr. Gadd's residence is a fine piece of pleasure ground surrounded with *Rhododendrons*, which at the time of my visit were a mass of glowing beauty. Among the most conspicuous of them I noticed *Lady Eleanor Cathcart*, *Luciferum*, *Nero*, *Brutus*, *Blandyanum*, *Alarm*, *Vandyke*, *catawbiense fastuosum*, *C. Everestianum*, and many others equally good.

We now pass on to the large conservatory, which is 15 or 18 feet high and 75 feet long. Besides *Camellias* I noticed a fine plant of *Araucaria Cunninghamii*, large *Azaleas*, and a general collection of greenhouse plants. In front of this conservatory there is a large herbaceous garden, and here many favourite old plants are petted and cared for. There was the beautiful *Spiraea Douglasii* with its dense plumes of white flowers; *Aquilegia glandulosa*, one of the most beautiful plants of the genus; *Anthericum Liliago*, a pretty free-flowering perennial, with grass-like foliage and numerous spikes of white flowers; *Lithospermum prostratum*, a fine plant for the hardy flower garden; *Phloxes*, *Delphiniums*, double *Pyrethrums*, plants of great beauty; large *Azaleas*, *Peonies*, *Potentillas*, and *Dodecatheon Meadia*. The walls of the old conservatory were draped with *Magnolias*, *Wistarias*, and *Chimonanthus fragrans*.

Pursuing our journey we reach the kitchen garden. The walls are all clothed with beautifully trained fruit trees, and the various flats were teeming with luxuriant vegetables. There are several walls devoted to *Apricots*, which are protected in spring with broad coping boards resting on projecting brackets at the top of the wall. *Peaches*, *Pears*, and *Plums*



are well represented, and every tree is in the best possible condition. I hardly know which deserves the greatest meed of praise, the wall trees or the vegetable crops: both bore the impress of superior skill. I was much struck with a flat of Sutton's Queen Broccoli, which was invaluable as a very late Broccoli. Many of the heads measured 36 inches and upwards in circumference, and they were close and compact. A flat of Hicks's White Cos Lettuce was something wonderful, the Lettuces were so large and fine. The Strawberries promised abundant crops of fruit, a large quarter of the old Black Prince being grown for preserving, and Sir J. Paxton and Eclipse are good for table purposes. Early Prolific was not very promising in the open ground, but as a forcing Strawberry Mr. Gadd considers it without an equal. Strawberries are forced extensively, and at the time of my visit (June 17th) they were a grand sight. On the south wall there is a range of lean-to

houses 480 feet long, divided into eight compartments of Peach houses and vineries, and every available spot was occupied with French Beans and Strawberries. These houses were in the same good keeping as the rest part of the garden.

At the west end of the kitchen garden there is another block of useful span-roofed houses; the first being a Pine house, 60 feet by 13 feet, and well furnished with young Pines in luxuriant health. The second is a Melon house 30 feet long, the fruit in various stages of growth. The chief varieties grown were Read's New Hybrid Scarlet-flesh, a beautiful netted variety of most delicious flavour; and Eastnor Castle Green-flesh, a hybrid between Beechwood and Victory of Bath, a delicious variety, the plant being a free grower and setter. There was also in this house a miscellaneous collection of stove plants. The third house, 30 feet long, contained Cucumbers. Rollisson's Telegraph and Pearson's Long Gun appeared to

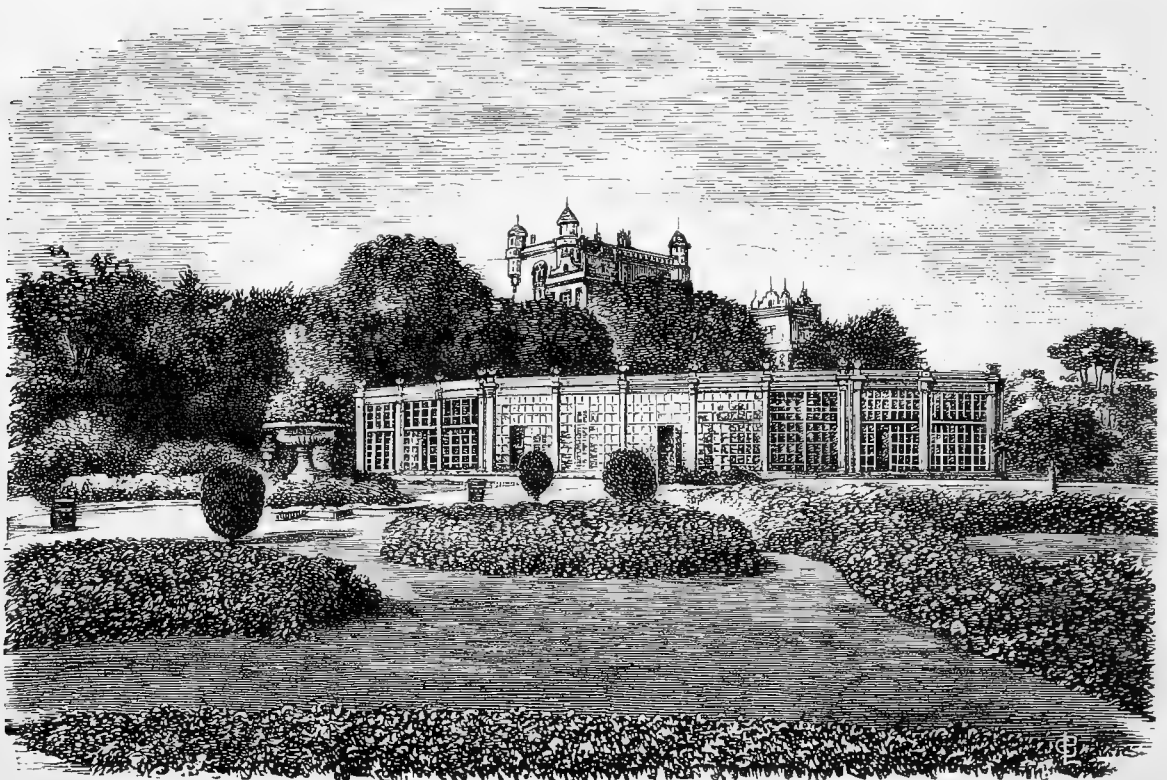


Fig. 24.—WOLLATON HALL.

be relied on for the main crop; but there were several plants of the Duke of Connaught and Tender and True, the latter proving a first-rate Cucumber. Two or three days before my visit Mr. Gadd cut three fruit from a plant of Tender and True which measured 7 feet. In the Palm house I noticed in particular a fine *Passiflora Buonanaparte* blooming in great profusion, and a *Clerodendron splendens*. In the show house, which is 75 feet long, there were huge *Brugmansias*, Tree Ferns, Musas, healthy Orange Trees, &c., and from the roof were suspended Climbing *Devoniensis*, *Gloire de Dijon*, and *Maréchal Niel* Roses. The Fern stove was furnished with a fine collection of healthy well-grown Ferns interspersed with *Gardenias*, which filled the house with the most delicious odour. On the roof were *Hoya carnosus*, *Jasminum Sambac*, *Rhynchospermum jasminoides*, and *Stephanotis floribunda*. In the large plant house there was a large collection of *Pelargoniums* of the greenhouse section, and the same may be said of the *Zonals*. The New Holland house was filled with hardwooded plants, *Ericas* and *Epacris* predominating. The pillars were draped with *Tropaeolums* of the Lobbianum section. The stove, 35 feet long, was crowded with such plants as are used in the present style of dinner-table and house decoration, all in excellent health. The last house I entered was a successional Pine house.

Behind the range of vineries and Peach houses there is a very commodious potting shed heated with hot water. It is

rare in noticing gentlemen's seats that the potting shed comes in for a note of observation, but that at Wollaton is well worthy of imitation. In a shed of this description plants may be brought from warm structures in cold weather either to be repotted, sponged, or staked, and the work can be performed without danger to the plants and with comfort to the workmen. There is also a convenient place for fumigating, which must be a great advantage when only a few plants are infested with insects, or when it is not convenient to fumigate them in the house in which they are growing. The fruit room is also a model of perfect arrangement. All the trays are moveable, and fifty bushels of fruit can be stored away in single layers. On a bed of coal ashes I noticed a fine batch of *Chrysanthemums*. Mr. Gadd grows these plants on single stems; they are never stopped from the time they come from the cutting pot, and he succeeds in producing flowers of prodigious size.

I have dwelt longer on these gardens than I intended, and now the notice is very imperfect, there are so many objects of interest deserving to be recorded. I wended my way across the park and kept by the Lenton lodge. From the mansion to the lodge it is about a mile and a quarter. There is a noble avenue of Limes about three-quarters of a mile long—"tall ancestral trees"—planted on each side the carriage drive, the branches meeting overhead and forming a leafy arch of great beauty. From the Limes to the lodge there is an avenue of

Wellingtonia gigantea half a mile long, about 10 or 12 feet high, but they will never equal in beauty the splendid avenue of Limes.—R.

### PYROLA ROTUNDIFOLIA.

OUR figure represents one of the most charming families of dwarf-growing hardy plants in cultivation. They are by no means a numerous race, but it sometimes happens that the less in number are the species the greater is the interest attaching to them. The greater number of these plants are natives of Britain, while some are from North America and the Pyrenees; but no matter where they are from, they form one of the choicest groups of plants that we possess. Why they have remained so long in background and been excluded from our rockeries and other shaded situations is to me incomprehensible. Their evergreen pear-shaped foliage is a sufficient recommendation for them, to say nothing of their spikes of white and other coloured flowers. They are met with in shaded and sheltered alpine regions among decaying vegetable matter. They are very accommodating when taken in hand for decorative purposes, and they are fine for exhibition in the spring and summer. Afford them the elements under which they are found, and then success is almost a certainty.

They are admirable plants for cool ferneries under glass in the shade, but they are impatient of wet, and must be provided with efficient drainage. A mixture of peat, leaf soil, and coarse grit is a suitable compost for them to grow in, but with the best attention we sometimes have the reward of foliage only, or accompanied with only very few flowers, while at other times we are richly rewarded with a full supply of beautiful flowers. They are charming flowers for the bouquet and any other decorative purpose for which cut flowers are adapted.

They are increased by seed and division, which is best done when the plants have done flowering. The kinds most generally met with are *P. media*, *P. minor*, *P. rotundifolia*, *P. secunda*, and *P. elliptica*, but they are all worthy of culture, and ought to have a place in all collections of rock and border plants.—N.

### GRAPES AT KEDDLESTON HALL.

YOUR correspondent "E. C." was perfectly right in last week's Journal when he said the Grapes of this place were very noteworthy. I saw them the other day, and I must say they are the most remarkable crop of Black Hamburg Grapes I

have ever seen. There are a good many vineries about the place, but at present I will only notice two of them, or one in particular. This one is 40 feet long by 8½ in width. Sixteen years ago it was planted with Peach trees. The border was made to suit them with common garden soil mixed with a quantity of decayed vegetable matter from the rubbish heap. This border was only made 2 feet deep and 8½ wide. Peaches were planted on the back wall, and still grow and do well there.

As the exposure is due south it was found intensely hot inside in the summer time. To secure a partial shade Mr. Jackson the gardener planted a Black Hamburg Vine at the front and in the centre of the house. At first the canes were trained along each way from the centre to the two ends of the house, and when this was accomplished a rod was taken up each of the 11-foot rafters, which are 9 in number. This is the form of the Vine at the present time. It has invariably produced and finished splendid crops since it came into a bearing state some twelve years ago. Nearly every year there have been bunches cut weighing over 6 lbs. This year there are fifty bunches on the Vine; one or two of them have been cut which weighed 5½ lbs. each. About half the number on the Vine will reach this weight, and the remainder will at least run from 3½ to 4 lbs. Altogether the bunches must average 4 lbs. each, which brings the entire crop on the one Vine over 14 stones. The bunches are all well formed; the berries very large, well coloured, and not the remotest sign of shanking or any other kind of disease about them. The leaves, too, are healthy and green and of great substance.

From the first to the last the border is watered with manure water drained from rotten dung. In the hot weather the border was co-

vered to the depth of a few inches with cut grass from the lawn. No doubt the roots must have passed into the outside border, which is 8 feet wide; but this has no special treatment for the benefit of the Vine, as it is cropped with Potatoes or some other kind of vegetable annually.

It may be as well to remark that the Vine is started slowly into growth in March. There is only a flow-and-return 4-inch pipe in the house, therefore a strong heat cannot be maintained early in the season or in cold weather. The only time the Vine is syringed is during the period it is in bloom.

The other house to which I have referred is the same width, but 45 feet in length. Peaches are also growing in this one, and there are two Black Hamburg Vines planted in the front. They are trained in the same way as the single one. The bunches in this house will average from 3 to 4 lbs., and they are equally as well finished as those in the first house. The treatment they receive in this house is precisely the same as



Fig. 25.—PYROLA ROTUNDIFOLIA.

in the former, and Mr. Jackson can only attribute the slight deficiency in the one from the other through having to restrict the two Vines more than the one.

This is a very strong case in favour of the extension system of Vine-growing. Lord Scarsdale takes a great delight in his Grapes, and well he may, as better crops no one need desire to possess or see. Just fancy going into a house 40 feet by 8½, and being able to cut from twenty to thirty bunches of superb Black Hamburg Grapes, and not one of them under 5 lbs. each.—J. Muir.

### SMALL FRUITS IN TREE FORM.

MANY of our most prominent pomologists have taken the ground that fruit trees of every description succeed best in our hot dry climate when allowed to branch from the ground; that the action of the sun's rays on the long naked trunk is highly injurious to its health and productiveness. Some even go so far as to say that the Apple, the most reliable of American orchard trees, will yield a far larger profit and show a higher state of vigour when trained in the shape of a large bush than when trimmed up as a tall standard, and they bring such convincing proofs as the growing trees to sustain their arguments. That there is a great deal of truth in this reasoning as well as notable exceptions to the rule we are forced to admit; but the system, as a system, is correct, and should be more generally carried out by our fruit-growers in training their young trees.

One of the most curious instances of the standard form yielding better results than the dwarf is exemplified in the new standard Currants and Gooseberries now on exhibition at the Centennial grounds in Philadelphia. These pretty little trees, for they are exceedingly ornamental, were planted in one of the beds the past spring, have received no extra care either in mulching or watering, and yet they have made a fine growth in every instance, and perfected very large crops of superior fruit. An unanswerable argument in their favour so far is, that there has never been the least symptom of mildew either on foliage or fruit, but whether this feature will remain permanent has to be tested; it seems really too good to prove true. Seedlings from the Lancashire varieties raised in this country will frequently produce perfect fruit for a few years, and then fall into the evil ways of their parents; grafted in the manner described, however, this disease may not attack them, and we hope for the best.

The stock used for the purpose is the common Missouri Currant (*Ribes aureum*) trained to a single stem, and it is astonishing how the grafts appear to favour this species. The originator claims that the influence of the root is what prevents the mildew from appearing, and I see no cause to doubt his arguments, as seeing is certainly believing. These little trees are not entirely new in this country, as they have been tested in New Jersey for several years past, and with the most complete success so far. It is indeed a novel and very ornamental sight to see these miniature trees with their weight of fruit depending from the branches, and in some instances with both Gooseberries and Currants in tiers one above another of the largest size. Charles Downing, who will not lend his influence to a doubtful fruit, has given them his endorsement, and Dr. Siedhof of New Jersey has been growing them for more than seven years to his entire satisfaction.—(*New York Tribune*.)

### ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 3.

THE eye is familiar with the Lime in walks, avenues, and squares, where, under favourable conditions, it has a striking and graceful effect, and special attractions in the fragrant scent of its flowers and the summery hum of the bees as they sip their honey. The smoker knows no choicer rendezvous than the Lime walk for the enjoyment of a quiet "weed;" and a specimen of a very perfect Lime walk with interwoven canopy may be seen in the gardens of Trinity College, Oxford. The drawback to the Lime is a freakiness of growth in even the clays and gravels that are said to suit it best. A considerable difference will occur between two Limes in the same avenue, and the disparity from the Elms, which were probably planted at the same date, will be found much greater in some than others. A feature, too, which does not enhance the beauty of the Lime, though it has a solid *raison d'être* as an asylum for small birds, is the dense thicket of twigs and shoots which often grow out of its very centre or heart. Still the Lime may claim to be an ornamental tree; whilst its uses, in-

dependent of its honey-cups and the "bast" which it furnishes for mat-making and plant-tying, consist in supplying the best of woods for the carver, the smooth-grained, insect-proof, pale-yellow material, which yielded such delicate and enduring handiwork to the touch and under the graving tool of Grinling Gibbons. Specimens of this are to be seen at Chatsworth, Windsor, and St. Paul's, with the lines still fresh and sharp after a lapse of two hundred years; and another splendid example of this famous artist's skill is the carving in the saloon and rooms adjoining it at Holme Lacy, Herefordshire. Another use of the Linden wood is for the sounding-boards of pianos, as it is less inclined to warp than other timber. The *Tilia alba* is a variety of the *T. europæa*, with a silvery under-leaf; and there is an American Lime which differs from the European in having its young shoots brown instead of bright red.

Walk we next into the Beech woods for the charm of dryness under foot, and in autumn the yellow and amber tints overhead, no less than for the grace and nobility of contour which no tree critic except Gilpin has attempted to deny. Precedence might be claimed for the Sweet Chestnut, but that is a naturalised alien; whereas, but for Cæsar's statement that there was no Beech in England, we should claim it as a native. As park timber, in clumps, pairs and triplets, it has a fine effect; and though ill suited to mix too much with other trees will thrive apace amidst its own kind. It makes the best and densest of hedges, except the Yew and Holly, and there is no tree better for a screen fence. In habit it varies with its conditions. Drawn up by contiguous trees, its clean straight stem of a smooth olive grey is eminently graceful, as witness the two giants of straight and branchless trunk, named the King and Queen, at Ashridge, Lord Brownlow's seat in Herts, the finest samples of their kind in England. Where, however, it stands alone, its form is that of an expansive round-headed tree, apt to be short of stem, but having its head composed of crowding branches, which bend, curve, and inarch in various fashions. The finest example probably of this type in Europe is a Beech at Newbattle Abbey, near Edinburgh, with a bole of 33 feet at 2 feet from the ground, a height of 160 feet, and an overspread of branches not less than 120 feet in circumference. Its lower branches arch over till they reach the ground, when they assume an upright growth, disguised in summer by ample foliage. This tree, planted according to tradition in the sixteenth century, is an exception to the rule that the Beech, which reaches its prime at seventy or eighty years, decays rapidly after a century or a century and a half. An illustration of it is given in the *Gardener's Chronicle*, October 24, 1874. The Beech grows kindest on chalky soils, as in Kent, Berks, and the midlands; but it does well on clayey loam and generally where the subsoil is dry. Had we space, it might be shown that mycologists and entomologists have their special interests connected with the Beech; but it must suffice us to notice a form of disease to which it is subject, and which we have not seen noticed in the books on arboriculture. This is a woolly white mould upon the bark of tall clear-stemmed trees, resembling in appearance the American blight on the Apple's bark. It is said to be curable by copious dressings of oil; but the remedy is a laborious one, and in the meanwhile trees thus affected pine and shrivel. A notice of the Beech would be incomplete without a reference to the Purple Beech, and its sub-variety the Copper Beech, which are such effective contrasts to the green leaves of the garden and lawn in all their phases of colour. Our trees of this kind are produced chiefly by in-arch grafting from the stock of the original tree discovered a century ago in a wood of Germany. A weeping Beech and a variety with leaves blotched with yellow or white are worth consideration.

Linnaeus and his contemporaries regarded the Sweet Chestnut as a species of Beech, from which, however, it differs generically in having long and cylindrical and not globular catkins. For its well-girthed twisted trunk, broad leaves of a dark glossy green, and comparatively lightsome head, the *Castanea vesca* is entitled to rank amongst the trees of the park, though it is no match for the Oak or many other timbers in durability and soundness. On deep sandy loam or a rich gravel it is good timber enough up to thirty-five or forty years, and does well for gates and rails, or at a much earlier date for hop-poles and barrel-staves. But after fifty or sixty years, dialling or decay is apt to detach the annual layers from each other, and the tree becomes shaky. Its economic virtue is, strange to say, its precocity. In France, Spain, and Italy, from which last the Romans probably brought it

hither on that account, it is valued for its fruit, which makes a species of flour, and serves the purpose of our Potato; but with us who cannot grow *les marrons* of our neighbours, it is simply a dessert fruit, and even then rarely home-grown. It is propagated from the nuts when well ripened; but the tree has but a moderate amount of flavour in this country, and not such as one might expect from the size of ancient samples of it at Croft Castle—where some of the Chestnuts are from 76 to 80 feet in height, with a girth of 25 or 26 feet—at Nettlecombe in Somersetshire, and in Dean Forest and its border. The Tortworth Chestnut on the other side of the Severn was a boundary tree in Stephen's reign, and is computed to have seen eleven centuries. It bore fruit small but abundant in 1788, and in 1721 was 19 yards in circumference; but it is now very dilapidated, and its girth of 60 feet at 4 feet from the ground is a trifle to the famous Chestnut of Mount Etna, the *Castagna di cento cavalli*, which was 204 feet in girth, and of the capacity of which the name gives an idea. But the Sweet Chestnut's claim to consideration is its picturesque effect at other seasons, as well as in its autumnal leaf, which abides longer and is of a richer gold than its namesake the Horse Chestnut (*Æsculus hippocastanum*), a much later introduction to Great Britain from Thibet, of much less value as timber, and of a wholly different botanical family. The sole likeness is in the form, not the savour of the nut. The merit of the Horse Chestnut, which commends it for environing walks, drives, and lake banks, is its massive and luxuriant foliage, especially when "the richness of its velvet drapery is embroidered over with millions of silver flowers." Compared with these clusters of delicate white, tinted and relieved by as delicate pink and gold, the blossom of the Sweet Chestnut is dull and flat. For a charming variety of the Horse Chestnut the roseate-tinted *C. rubicunda* may be easily grown, as also the less known *Pavia lutea*, a smooth Horse Chestnut of elegant foliage and habit. We may mention, too, a variety of the Sweet Chestnut likely to prove quite hardy, the *C. chrysophylla* introduced from California, which is remarkable for its bright golden-yellow underleaf.

But lest the reader should tire of a prolonged march past, in which each deciduous tree follows another, we shall resort to the device of grouping, which has been used with such effect by Mr. Mongredien in his "Trees and Shrubs for English Plantations." The reds and yellows which predominate in an autumnal landscape suggest one such group, which has been partially anticipated; the towering and spiral tree-forms which stand out from such a landscape, and a group to which some of these belong, the trees that love the waterside, a second; and a third having been devoted to such as will endure town smoke, whatever space remains will of right belong to the Conifers. From the outlook we occupy, say on the last day of October, the eye comprehends within the lawn precincts the reddish-yellow of the Sumach, the less ruddy yellow tints of the common Medlar, the green-yellow of the Mulberry, and the burnished gold of the Norway Maple. Just beyond, a week ago, might have been seen the red foliage of the Bird Cherry, and at no great distance the rich crimson of the Pear leaf. Were fruit trees within our scope we might dilate on the lovely white blossom of the Medlar and Cherry in springtide, and the colour and grain of the Cherry wood when felled and converted. To these may be added the leafage of the Liquidamber just changing at the same season to a bright red from a golden amber, and the *Salisburia adiantifolia*, the leaves of which turn to a golden tint before they succumb to sharp frost. But as we are upon timber trees way must be made for the Maples; and first among them the presumably British Sycamore (*Acer Pseudo-platanus*), which puts on its autumnal brown-red, as Cowper notes, "ere autumn yet hath changed the woods," lest perhaps the change should go by default, so quick is it to part with its leaves, it may be owing to the density of its foliage, which adapts it for sheltering the sunny side of a dairy. A variegated Sycamore with white blotches on its leaf is a favourite and healthy-looking variety, and there are one or two others of more recent introduction. Against the fault of the Sycamore, that it does not carry height in proportion to its girth, may be urged the fact that it is a quick-growing tree of great durability, and in request with cabinet-makers, moulders, and turners. For a lighter carriage perhaps the Norway Maple (*A. platanoides*) may be preferred, a tree of first-rate growth, and as desirable for its uses as its ornament. Its early light green turns to brilliant yellow. It is lightsome in form and outline, and its timber exhibits the same beauty of fibre as the Bird's-eye Maple of America. The form of its

leaf is like that of the Western Plane, and it merits well the consideration of the planter. Mongredien recommends the variety called *Acer Pl. colchicum rubrum* for its dark red leaves; and it is worth while to try also for contrast the Sugar Maple (*A. saccharinum*), the smooth green leaf of which, with glaucous underleaf, changes in autumn to orange and crimson. This variety is the American Bird's-eye. Other species from North America are *A. eriocarpum* and *A. rubrum*, both of which are very susceptible of frost, and an Himalayan Maple of very recent introduction does not as yet encourage the hope of its becoming hardy in this country. It is curious that two of the Poplars from North America, *P. balsamifera* and *P. canadensis*, invert the order of colouring, exhibiting a soft yellow when their leaves expand in early spring, but changing with full maturity to a deep green with whitish-green underleaf.

But the Poplars are chief amongst our spiral and columnar tree forms. Who has not realised the character which a triplet of Poplars adds to a rural landscape, as they tower above the hedgerows and the lesser timber trees; or the semblance to a pinnacled cathedral put on by a group of these in the far distance, as it overtops the Oaks, and Elms, and Beeches that intervene? For ornament to the landscape, and upright, tapering, Cypress-like growth, there is nothing to beat the Lombardy Poplar (*P. fastigiata*). It is the tree "which wept amber on the banks of Po" in classic fable; and even where it does not, as at Great Tew, attain the height of 120 feet, its rapid growth enables it to contrast signally with trees of lower and spreading habit, and to "diversify," as Grigor expresses it, "the regularity of the sky-mark." In leaf it much resembles the later-foliaged Black Poplar, and its habit when swept bodily by the breeze, and when it

"like a feather waves from head to foot,"

is a sight to remember. Intermediate in habit between it and the Black is the monilifera or Black Italian, the fastest grower of the Poplars, which on stiffish soil or near running water attains to 100 feet, and makes planks for the largest buildings, that are neither apt to split nor to ignite. Distinct from these is the Abele, with a dark green upper and downy white under leaf, the hardiest variety of which is the common White Poplar (called *acerifolia*, from its deep-lobed leaf). The fault of the Grey Poplar is its tendency to realise the proverb, "Soon ripe, soon rotten." Full grown at forty years, and having a stem of 40 feet clear of branches, it is apt to take heart-rot at sixty. For its many associations the tall "light quivering Aspen" should be planted (which may best be done as a seedling); and, unlike most of its tribe, it is a native. Of elegant form and motion, it has a rich green foliage, which turns eventually to bright yellow. Its chief drawback is a tendency to innumerable suckers. Its slimmer allied species, called the Athenian Poplar, though it hails from the North American, not the Greek, Athens, is in some respects a more ornamental tree.

Next after the Poplars for upright and columnar growth comes the Irish Yew, a somewhat sombre fastigate evergreen of moderate height from Fermanagh; and among the Cypresses, Thujas, Biotas, and Junipers we shall meet with other trees of this habit and of more aspiring stature. A Pyrenean Oak, unnoticed earlier in our remarks, but hardy about London, whatever it be further north, the *Quercus fastigiata*, has a growth and shape by no means unlike the Lombardy Poplars. In its finest development the Occidental Plane might rank with this class, having an upright and quasi-fastigate growth (of from 70 to 100 feet), which distinguishes it from the Oriental Plane, a tree from its rounded form and bright flickering foliage is eminently suited for the lawn or pleasure ground. The Western Plane has this in common with the Lombardy and other Poplars, that it attains its greatest growth by the waterside. It is the same with the Willows and the tall American Birch (*Betula excelsa*), introduced about a century ago, and reaching in North America a stately well-branched growth of 80 feet.—(*Quarterly Review*.)

## DIOSPYROS KAKI.

I HAVE thought of trying this in a pot in an orchard house, but fear there are few who can speak from experience as to the probability of success. The three questions I want answered are—1st, Does the plant break readily from the old wood, so that the tree may be kept compact? 2nd, Does it fruit when small, say as readily as a Peach tree? 3rd, Is the fruit worth the trouble? This is, of course, a matter of taste. A person writing from Japan said that the fruits there were generally



bad, but that the Kaki was pleasant and good. I shall be glad if information can be given by anyone having experience of this fruit.—G. S.

### DOVER FLORAL AND FRUIT EXHIBITION.

This was held on the 29th inst. in the grounds of Dover Priory, and merited praise in all the divisions. The cut flowers, fruits, and vegetables were especially excellent. A fuller notice we hope to publish next week, but we must promptly particularise the success of one exhibitor, so well known and welcomed in our pages—the Rev. H. Honeywood Dombrain. He had awarded to him the chief prize and a second for Gladioluses, and it is enhanced by the fact that he had as a competitor Mr. Baker, whose collection is so vastly larger in numbers than Mr. Dombrain's. The Gladioluses in his first-prize stand were *Blanche*, *Murillo*, *Norma*, *Adolphe Brogniart*, *Lady Bridport*, *Sir Redmond Barry*, *Marie Stuart*, *Rossini*, *Meyerbeer*, *Madame Desportes*, *Genievra*, and *Leda*.

We would observe that the excellence of Mr. Dombrain's flowers were done justice to by their superior arrangement and the style in which each spike was displayed. This was rendered more striking by some of the competing collections appearing distasteful by the careless way in which the spikes were placed in the stands.—G.

### NOTES AND GLEANINGS.

We have received the schedule of the INTERNATIONAL HORTICULTURAL EXHIBITION which is to be held at Dundee on the 7th, 8th, and 9th of September. The schedule is very comprehensive, numbering 206 classes—namely, 64 for fruit, 57 for plants, 36 for cut flowers, 10 for table decorations, &c., and 39 for vegetables. The prizes offered are liberal, amounting in the aggregate to upwards of £1000, besides gold and silver cups and medals. For twenty sorts of fruit, prizes of £15, £15, and £10 are offered; a gold cup of the value of £20 being given by the Earl of Strathmore to the winner of the first prize. For eight varieties of Grapes a gold medal is added to the first prize of £15, the second prize being £12, and third prize £7. For twelve stove and greenhouse plants prizes of £20, £15, and £10 are offered, a gold medal being provided for the winner of the first prize; a gold medal is also offered in the class for nine stove and greenhouse plants. Messrs. Dickson & Turnbull give a silver medal to the winner in the class for six greenhouse plants in flower, and Messrs. Robertson & Galloway a similar medal for twelve spikes of *Gladioli*. A special committee is appointed to take charge of the exhibits, and every facility is offered to intending exhibitors. Arrangements have been made with the railway companies to carry plants, &c., at a single fare for the double journey, such plants &c., not changing ownership; and the Caledonian, North British, Glasgow and South-Western, and Highland Railway Companies have agreed to carry all passengers going to the Exhibition the double journey for a single fare—the tickets to be available from Wednesday, September 6th, to Monday, September 11th, on condition that the railway tickets are stamped at the Show. A large and successful gathering is anticipated.

REV. W. F. RADCLIFFE writes as follows on PEA PROTECTION:—"Before sowing Peas dip them into benzoline and immediately sow them. Mice will not touch them before they come up, and sparrows will not damage them after they are up. Aloe dissolved in water is also a good protection. Put the Peas into the solution the night before sowing. The sorts I use, and they are good, are *Ringleader*, *Princess Royal*, and *British Queen*. Gardeners and amateurs love, like *Athenians*, some new thing. The prices charged for new Peas are enormous: 7s. 6d. for a quarter of a pint amounts to £96 per bushel of thirty-two quarts!"

THE second show of the season of the BURTON-ON-TRENT HORTICULTURAL SOCIETY, which was held on the 23rd inst., was very successful. There was a good show of stove and greenhouse plants, Ferns, Roses, Stocks, Hollyhocks, Dahlias, bouquets, Marigolds, Phloxes, and Verbenas. Among the fruits there were some fine black and white Grapes, Cherries, Apricots, and Apples. The best specimens of vegetables might be found among the French Beans, Celery, Carrots, and Potatoes. Mr. W. Bennett, gardener to Mr. M. T. Bass, M.P., Rangemore, was first for stove plants, Begonias, Ferns, collection of miscellaneous plants, table decorations, cut flowers, collection of fruit, Pine, Black Hamburg Grapes, black any other sort, Peaches, Nectarines, Cherries, Black Currants, Scarlet Beans, French ditto, Cauliflowers, Carrots, white Celery, and culinary herbs. Other successful exhibitors were

Mr. Tobin, gardener to Mr. F. Gretton, Bladon House; Mr. E. Hollis, gardener to Mr. J. T. Poyser, Stapenhill; Mr. G. Gough, Little Malvern; Mr. G. Chitty, gardener to Mr. Guy Nadin; Mr. H. Draycott, Leicester; Mr. F. Wood, Derby; Mr. W. Cunningham, The Forge; Mr. G. Bentley, gardener to Mr. R. S. Tomlinson; Mr. T. Wilson, gardener to Mr. J. Nadin, Ashby Road; Messrs. Perkins & Sons, Coventry; Capt. Webb, Lichfield; E. D. Salt, Esq., Newton; Mr. R. Spencer, gardener to Mr. R. Ratcliff; Mr. H. Frettingham, Beeston, &c.

By the kind permission of Lord Eversley the gardens at HECKFIELD PLACE, Winchfield, may be inspected by the public on the 4th, 11th, and 18th of September; and from the well-known reputation of Mr. Wildsmith both as a flower-garden and fruit cultivator a treat of a high order may be anticipated by those who can avail themselves of the privilege which is now again offered by the noble owner of these renowned gardens. Applications for tickets of admission should be made to Mr. Wildsmith.

We recently noticed in the flower garden at Wimbledon House some fine plants of *CHAMEPUCE DIACANTHA*, which are noticeable as having been raised from seed sown last autumn in the open border, the seedlings having had no other protection during the winter than that afforded them by a common hand-light. That, Mr. Ollerhead states, is the best mode of raising a supply of these distinct plants; and now that he has shown us how easily they may be produced they will probably be found in more gardens in the future than has hitherto been the case. The seed may be sown in light soil in September, and the plants may remain with the slight protection alluded to until they are large enough for removal in the spring. *C. cassabona* may be increased in the same simple manner.

A CORRESPONDENT writes thus on the subject of TOMATOES PREVENTING WASPS FROM ENTERING VINERIES:—"Those who find Tomatoes a deterrent of wasps have either different kinds of wasps or different sorts of Tomatoes to deal with than those coming under my experience. In the vinery in my charge Tomatoes are largely grown, and they are no more effectual in frightening away the wasps from the Grapes than is a hat stuck on a stick in driving away the blackbirds from the Strawberries. If any gardener has a Tomato that will really keep wasps out of a vinery, I shall take it as a great favour if he will send me a pinch of seed through the Editors of the *Journal of Horticulture*, and for which I will gladly pay postage."

CONSIDERABLE attention having been given recently to the cultivation of *HEVEA BRASILIENSE*, which yields the best rubber or caoutchouc, imported from Para in Brazil for introduction to Ceylon and other tropical countries, it will doubtless be of interest to give particulars of the first large consignment. The seeds were received at Kew in June of the present year, and just at the expiration of eight weeks thirty-eight Wardian cases, each containing fifty plants, were sent to Ceylon. Other cases have been sent to Singapore, and about 2600 plants will altogether be distributed. The seeds live but a short time, and in the present importation scarcely 4 per cent. were alive when received. The number was about seventy thousand, and as each is as large as an average Gooseberry the space occupied was considerable. The plants grow with great rapidity, as must be imagined from the time within which the seeds were received and the plants sent away—indeed the cases had to be of such a height that would allow the plants room for growth during their confinement. The growth is not continuous from the first; after producing the first few leaves there is a few days' cessation, then when the stem is so far firm another rapid growth is commenced.

We have received from Mr. W. LOVEL, Weaverthorpe, York, a POST BOX containing Strawberry plants and cut flowers, which arrived in a perfectly fresh state. The box is worthy of notice. It is made of stout cardboard, ingeniously folded and pinned at the ends. Mr. Lovel states that these boxes can be made by a boy at the rate of eight or ten per hour, and their cost is not more than a halfpenny to a penny each, according to size. Any person can make them after seeing a pattern. They require no stitching and no paste, and would be much used if generally known.

THE "CORRESPONDENCE BOTANIQUE" for 1876 has just been published. It is a directory of all the botanic gardens, professors, curators, and distinguished botanists throughout the world, and is one of the most valuable publications of the

day. When we say it is produced under the direction of M. Ed. Morren of Liège we have a guarantee that the information it contains is reliable.

— **THE LAVENDER HARVEST.**—The recent heat has had the effect of improving greatly the Lavender harvest. It may not be generally known that we have such an industry in England. A correspondent writes recommending those who have seen and admired the flower farms of Provence to pay a visit some warm summer like the present, at the end of July or beginning of August, to the Lavender fields, planted something over half a century ago outside the town of Hitchin, where, the correspondent believes, the comparison of sweet scents will be in favour of our Hertfordshire gardens.

— **M. DE SAPORTA** has recently communicated to the Central Horticultural Society of France a note on the minimum temperature which can be borne by *EUCALYPTUS GLOBULUS* and other plants in the south of France. M. de Saporta remarks that, during the winter of 1870, the temperature at Hyères sank to 8° C. below freezing point (25° Fahr., or 17° of frost), when the Lemon was killed to within 3 feet of the ground, the Orange half-way down, while the *Eucalyptus globulus* only suffered in some of its smaller branches. *Buonaparteia* sp., *Dracæna indivisa*, *Chamærops excelsa*, *Sabal umbraculifera*, and *Cocos australis* remained unhurt; and *Corypha australis* was much injured, but subsequently recovered. The Date Palm suffered but little, though the Oleander was killed to the ground. All the plants just mentioned were planted in the open, and received no protection. *Chamærops excelsa* in the Basses Alpes withstood a cold of 16° C. below freezing point (6° Fahr., or 26° of frost), with only a little litter around the stem. *Eucalyptus globulus* does well in slightly moist or even in dry soils, but not in those which are constantly moist; while *Sabal Adansonii*, which also resisted 8° C. below freezing point, does well in marshy places.

— **BORAX**, says the *English Mechanic*, is said to have yielded good results in an investigation into its merits as an antiseptic. A solution destroys the spores of parasitic plants, as the minute fungi on Grapes, &c., and also has a remarkable power of arresting the lower forms of animal life. A saturated solution of boracic acid, with a small quantity of borax, salt, and saltpetre, makes a "brine" in which fresh meat is treated with so much success that it can be preserved untainted even in the hottest parts of the earth.

— We are informed that not less than £10,000 worth of FLOWERS were sold in Paris on the 25th inst. in preparation for the fête of St. Louis, which took place on the day following.

— A THIRD edition of Mr. Francis George Heath's work "THE FERN PARADISE," which we favourably reviewed a short time since, is we understand in the press.

## OUR BORDER FLOWERS—GLOBE THISTLE.

To those who are interested in border flowers the present is a time of year when collections should be inspected, notes taken, and selections made, for now many of our summer border flowers are in beauty, and the autumn-flowering plants are following in their wake.

From many parts of the world we have had imported several different kinds of Globe Thistles, but how seldom do we meet with any number of them in cultivation. Some are ready to say of them that they are vulgar-looking plants, but look a little closer and examine their structure before thus deciding. Under some circumstances we meet with two or three kinds, principally in some old-established nursery, where they used to have care bestowed upon them and are now looked on as heir-looms. As individual plants for out-of-the-way corners, open spaces in shrubberies, or wilderness walks, no plants are better adapted than the Globe Thistles; but to see them to advantage they should be grown in groups, and they will secure a prominent place in the enthusiastic cultivator's estimation.

*Echinops sphaerocephalus*, introduced from Austria in 1596, should be found in all shrubby borders. When well grown it is a noble plant, and when established it only requires to be left alone and will last for many years. *E. Ritro* and *E. spinosus* are the kinds most commonly met with. Others there are that ought to be more frequently seen, some of them having a woolly appearance, which adds a charm to their noble stature. These might be introduced into subtropical gardening with good effect. They do not object to partial shade, but succeed well in full exposure. Loam and grit broken up to the depth of 2 feet will afford them a good medium for their development.

They should have efficient drainage, and water as required. They remain long in bloom, and are useful for exhibition. The taller kinds require staking to guard them against wind. Old stools are the better for having the shoots thinned out when growth has commenced. They are increased by division in autumn or spring—the latter is the best time; the operation requires care in the performance of it.—**VERITAS.**

## NOTES ON VILLA AND SUBURBAN GARDENING.

### KITCHEN GARDEN.

SUCH dry weather as we have had, and the effect it has had upon vegetables generally, will, or ought to, induce people to house their produce as soon as they can do so. As far as my experience goes, it is too late to expect any benefit from rain if it comes to such crops as Onions, Carrots, Potatoes, Salsafy, Scorzonera, Beetroot, &c., because the continuance of dry weather has caused a sort of premature ripening, which ought to be a guide to growers to take up their crops and store them. We often witness that after root crops have nearly completed their growth and rain comes on, they begin to grow again. For instance, the Potato is one of the first to do that, and it is well to bear in mind the injury which follows. When Carrots and the other root crops I have mentioned begin to throw out white roots their quality is consequently very much deteriorated.

I have never found that root crops increase in size after this time in such a season as the present. The Onion is one of those roots that if it is not taken up now will not begin to root so soon as many other crops; but it takes up moisture to such an extent that it neither keeps well in the ground nor out of it, for if put into ever so dry a place the bulbs will not keep; therefore it is not out of place at this season of maturation of crops in general to remind cultivators that there is as much or more judgment required to know when a crop should be taken up and to keep it afterwards as there is in the sowing and growing of it. If Onions are pulled up in dry weather they may be left on the ground for some time; but should there be signs of wet they should be taken in when dry and laid out on a floor with a dry bottom until they are pretty well "harvested," and then to be strung upon sticks according to size and the number likely to be used at a time, and suspended anywhere where they can be kept dry.

When the ground is cleared the succeeding crop ought to be considered. Let the Onion ground be well manured and trenched in preparation for planting with Cabbages, which may be planted out at any favourable time.

With regard to the crops of Broccoli and greens of different kinds, some would say that they ought to be earthed-up when they arrive at a suitable size. Now, in such seasons as the present I do not agree with earthing too soon, for nearly all know that when plants are earthed-up that it is considered a finish to them, and they are left to themselves; whereas I consider that, though earthing of such tall-growing crops secures them from injury by the wind, they are not benefited by earthing if the operation is done too soon. For instance, the soil can be worked and kept clean much better; but if rain comes now, which we very much want, the plants would receive more benefit from it than if they were earthed; and if we take the Brussels Sprouts for example, which, according to the season, are not so far advanced as they are in more favourable years, they have much growth yet to make, and they will do it better by non-earthing than by earthing, but by all means earth them afterwards.

Scarlet Runners are now cropping well, but had it not been for watering and mulching there would not have been half a crop. Not having any rain for many weeks the system of watering is all-important; but if it is done without mulching it cannot have had such a beneficial effect. It is a good plan before mulching to stir the ground well and then put the manure on, which fixes itself on the surface of the soil, and, as it were, draws the roots to the surface, where they can receive the benefit of moisture; but if the soil is watered without this surface-dressing, and the sun plays upon it with such effect, and it becomes caked so that air cannot enter, the crop does not do so well in consequence. Mulching ought to be more generally adopted in the summer cultivation of nearly all crops.—**THOMAS RECORD.**

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

THE warm showers have caused weeds to start freely on ground that had been prepared for Coleworts, Broccoli, &c., and it has been necessary to run the Dutch hoe through between the rows. The ground is now in excellent order for sowing or planting. Perhaps other districts not far removed from us have not had so much rain, as all that has fallen here has been in the form of thunder showers, which are usually local. We had last week on

one day three-quarters of an inch of rain fell in the dinner hour, and three miles distant not a drop fell during the same day. Again, the severe thunder storm accompanied by hailstones as large as walnuts that occurred a few weeks since was also confined to a limited radius: it did much damage at Tottenham, Lea Bridge, and Stratford, coming within about two miles of Ilford, but all we had the same day was a gentle shower of rain.

Turnips may yet be sown, and a sowing may also be made of Lettuce and Radish seeds. A plantation of Celery may also be made at this time. Strong plants may be put out in beds—say from three to six rows. A much larger quantity can be obtained from a limited space than if the plants are put out in single rows. As opportunity offers we earth-up all crops requiring it. Early Celery should be earthed, carefully removing all suckers that start from the base of the plants. The leaves ought either to be lightly tied together with a strip of matting, or fastened together with paper. Exceedingly fine Celery is grown at Preston and in the neighbourhood of that town, much of it for exhibition. The growers blanch it in two ways, besides the usual one of earthing up—namely, by fastening the leaves together and covering the stalks to a length of a foot or more with brown paper wrapped round the plants, or else a 3-inch drain tile is placed over each plant. Peat has also been recommended for earthing-up Celery, and the heads turn out of this clean and white.

It is difficult to know what is best to be done with Potatoes this season. Some say, Take the crop up, and others recommend to leave the Potatoes in the ground. With us early Kidneys were a good crop, and the haulm decayed before the ground was dry, and the crop was taken up. Next in succession came what is called here the Early Shaw. At the time the tubers had grown to nearly the full size they were checked by drought, the intense heat causing the Potatoes to sprout. We saved some of them, and they are keeping well. Walker's Regents and Dalmahoy's have suffered very much from the drought; the haulm was in a very drooping condition, and the tubers had quite stopped growing before they were half their usual size, and they also began to sprout. After the rain the tops started to grow afresh, and the young Potatoes are also sending shoots through the ground. Whole fields may be seen in this unfortunate condition.

#### ORCHARD HOUSE.

The midseason sorts of Peaches and Nectarines are now ripe; the earliest sorts are over. We used to be at some pains to fasten a piece of close netting under each fruit, and as the fruit dropped we would gather it every day. This plan, however, is not so good as that of carefully going over the trees and gathering all the fruit that parts easily from the branches. A little experience is necessary to detect which fruits are ready for gathering. We have flat-bottomed baskets with a sheet of wadding in the bottom, and over that a sheet of soft paper. The fruit is carefully placed in the bottom of the basket and carried at once to a cool room, where it will keep several days longer and be of better quality than that allowed to fall from the trees. We have very good fruit of Dese Tardive Peach; it is later than Grosse Mignonne and Bellegarde, and ought to be extensively cultivated. We first saw this sort on the back wall of a late Peach house with Mr. Spivey of Hallingbury House near Bishop Stortford, Essex. He had fruit about 12 inches in circumference and of excellent quality. Exquisite is a very good flavoured yellow-fleshed Peach of the largest size: it is such a distinct variety, and withal so valuable for its lateness, that it ought also to be grown in a select collection. The Stanwick Elruge Nectarine during this and last season has been very fine. It is a highly coloured variety with rather more of the Elruge than Stanwick in its composition, as it is not a clingstone, but the flesh is firmer than the Elruge and more highly coloured.

#### GREENHOUSE AND CONSERVATORY.

It is a great advantage to Azaleas and many other species of New Holland plants to be placed out of doors even for a few weeks at this time. We had a plant of *Hedera tulipifera* that had been persistently attacked by mildew, and the young growths did not seem to ripen well. In a sunny position out of doors the plant has much improved, and the mildew has not spread on it. Ornamental-foliaged plants, such as *Phormium Colensoi*, *P. variegatum*, *Yucca aloifolia variegata*, *Y. quadricolor*, and others of this section bring out the variegation much more distinct and brighter out of doors.

Plants that are likely to be blown over by the wind should be fixed in position to avoid this calamity. Our plants are placed upon bricks in order that the air may circulate underneath the pots. Two bricks are sufficient for a pot up to 15 inches in diameter. The bricks are laid on the ground parallel to each other and 3 inches or more apart; three stout sticks are driven into the ground, and to them the pots are fastened. Azaleas and hardwooded plants generally may be trained into shape as opportunity offers. The new tying material raffia has come much into use for tying purposes, and it is the best to use for any softwooded plants of an herbaceous nature requiring to be cut down a few weeks or months after the ties have been made; but for all hardwooded plants strong black linen thread should

be used. This lasts much longer than any description of bast or matting.

In training plants some thought ought to be given to the natural habit of them, and the teachings of Nature ought to be followed closely. How seldom, for instance, do we see Azaleas trained in their own natural habit—that is, in the form of a bush more or less irregular; they are either pyramids with every shoot that projects an inch or two from the regular surface tied closely down, so that the plant when in flower presents a cone of colour red, white, purple, or mottled. Equally contrary to natural teaching are the umbrella-trained plants, with a smooth stem a yard high for a handle, and the plant trained to a framework of wire in imitation of an umbrella. Many of the hardwooded plants at exhibitions in the metropolis are too severely trained, and if the same plants were a little irregular in outline they would stand higher in the estimation of the judges, and the general public would have a better idea of the habits of the plants.

Stage Pelargoniums that were cut down a few weeks ago are now starting freely out of doors. When the young shoots have grown an inch the plants will be turned out of the pots, a considerable portion of soil shaken from the roots, and the plants be repotted in smaller pots. Cuttings that were put in early in July, when they show by their making new growth that they are rooted, should be repotted into small pots, one plant in a pot. They should remain in these small pots until February or March and then be repotted into 5-inch pots, when each plant if well managed will produce a dozen trusses of bloom.

Chrysanthemums have made healthy growth this year. They seem to like a hot season with plenty of water both at the roots and over the leaves; the plants must also be quite free from insect pests; all the growths must be trained into shape now, as in a few weeks they will be too hard to bend in any direction without snapping. Plants that are grown for the quality of their flowers also require attention, and all the late-flowering sorts should have the buds saved: of these may be named Princess of Wales, Venus, Lady Slade, and others. What cultivators mean by "setting the buds" is this—about a month or six weeks ago a single stem branched into three separate growths, on each of these will now be found a flower-bud and three leafy growths. If these three leafy growths are not stopped the buds will perish, but if they are pinched off close to the flower-buds these will develop themselves into the large flowers that are seen at exhibitions in November. Each plant will carry about three flowers, one only being allowed on each branch. After the buds are formed and have begun to swell they are not unfrequently attacked by a maggot very much resembling the Rose maggot. The best way is to pick them off by hand. If aphides still infest the growing shoots the insects must be destroyed by dusting them with snuff or tobacco powder. Red spider will not do any harm if the plants have been well syringed.

We have potted Cinerarias into their flowering pots, using 8-inch pots and moderately rich open soil. The Cineraria does best when the pots are placed on a damp bottom; the leaves are kept free from green fly and thrips by fumigating. Cyclamens have also been shaken out of their pots and repotted, likewise *Primula amona* of sorts. Roses for early forcing have also been potted into their flowering pots; the plants have been placed where they are slightly sheltered from the sun and from south-west winds.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Charles Turner, The Royal Nurseries, Slough.—*Catalogue of Dutch and other Bulbous Flower Roots, List of Strawberries, &c.*

Francois & Arthur Dickson & Sons, 106, Eastgate Street, Chester.—*Catalogue of Dutch and other Flower Roots.*

Messrs. James Carter & Co., 287, High Holborn, London.—*Illustrated Catalogue of Dutch Flower Roots, Roses, Plants, and Garden Requisites.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

THORNTON HEATH. September 1st and 2nd. Mr. W. Raines, 10, St. John's Villas, Bensham Manor Road, Thornton Heath, Hon. Sec.

MONTROSE. September 1st and 2nd. Mr. Alex. Burnett, 2, High Street, Sec.

STAMPFORD. September 7th. Entries close September 2nd. Address the Hon. Secs., Stamford.

DUNDEE (International). September 7th, 8th, and 9th. Mr. W. B. McKelvie, 26, Euclid Crescent, Sec.

GLASGOW. September 12th and 13th. Mr. F. Gilb. Doughall, 167, Canning Street, Sec.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY. September 13th.

KILMARNOCK. September 14th. Mr. M. Smith, 11, King Street, Sec.

IPSWICH. September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

**BOOKS (A Constant Reader).**—For reference on gardening matters the "Cottage Gardeners' Dictionary" will suit you, price 6s. 6d., post free 7s. 2d.

**REMOVING TURF (Daisy).**—You cannot legally remove it.

**PLUMBAGO EATEN BY INSECTS (Mrs. M.).**—Syringe the plant occasionally with a solution of soft soap of a strength of 2 to 3 ozs. per gallon, adding a pint of tobacco water to each gallon of the soapy water.

**ROSES IN POTS (Ozonia).**—You will find the cultivation of Roses in pots fully and ably described in the present number by Mr. Moorman, who is one of the most successful of amateur exhibitors. You cannot do better than follow Mr. Moorman's instructions.

**SEEDLINGS OF PHLOX DECUSATA (C. Bark).**—The flowers sent are very good, the colours being varied and the pipes generally being well formed. We cannot aid you in their disposal beyond advising you to submit good trusses of them to a florist dealing in hardy flowers.

**FUCSIAS UNHEALTHY (E. M. M.).**—Your plants are devoured with thrips. Dissolve 2 ozs. of soft soap in a gallon of water, and to this add a pint of strong tobacco water, and with this mixture syringe your plants every ten days. If the plants are small you had better dip them in the solution. If they are large lay them on their sides on a mat and crush them thoroughly. The mixture should be used at a temperature of 100° to 120°.

**SEEDLING CARMATIONS (W. S. Bath).**—Pot-off your seedlings in small pots, using a compost of two-thirds of medium turfy loam and one-third of leaf soil, adding also bruised charcoal and silver sand freely. The pots must be well drained and the soil carefully examined for wireworms. The plants may be placed near the glass in an unheated frame, keeping close until they are established, then admitting air freely, but guarding against cold currents, and especially rain. They must be watered carefully, particularly in dull weather, or the plants may become affected with the spot or rust, which is more injurious to them than cold. They may be wintered in the same frame, plunging the pots in ashes and covering the lights in very severe weather.

**INJURED ROSE LEAVES (J. P.).**—It is the black mildew, generally speaking the result of dryness at the root. The mildew attacks the leaves after injury is caused from defective sap action, and hot dry weather injures the breathing pores on the upper surface of the leaf, causing an exudation of sap, on which the fungus grows. Roses against walls and standards with long stems which are exposed to the action of the sun, and consequently much dried up in such weather as we have had between July 18th and August 1st, and again between August 7th and the 23rd, are especially liable to such attacks. Good farmyard manure in winter and liquid manure in the hot summer months are the best remedies, or rather preventives. Give liberal supplies of water at intervals, not dribbles constantly.

**HYACINTHUS CANDICANS (G.).**—We believe it was imported from the Cape of Good Hope, and first exhibited by Mr. Wilson Saunders. Botanists were long in debate whether to call it a Hyacinth or a Snowdrop. The first was adopted, but several good botanists doubt the correctness of the decision. Mr. G. F. Wilson, having saved the seed of this bulb, has grown many, half a dozen bulbs in a pot, in an orchard house. They grow between 4 and 5 feet high, and are very showy. Planted out in a cool border they produce strong plants and endure the winter perfectly. This answer has been accidentally delayed.

**RASPBERRIES, CURRANTS, AND GOOSEBERRIES INFESTED WITH CATERPILLARS (A. Hustable).**—The leaves of the Raspberry have been eaten by the Raspberry-bud grub (*Tinea corticella*), which is injurious to the buds inspring by consuming their interior, the presence of the grub being detected by the withered appearance of the flower buds. It is the larva which feed upon the leaves usually in early August, continuing up to winter. They, so far as we know, are only to be destroyed by pinching. The Gooseberry and Currant caterpillar may be destroyed by sprinkling the parts infested with white hellebore, 1 oz. to a gallon of water, applying with a whitewash or painter's dust brush, sprinkling the bushes by means of the brush dipped in the hellebore water. It should be used fresh. We have no caterpillars, which we attribute to the presence of small birds, which are the most effectual grub and insect destroyers.

**HAUTOIS STRAWBERRY CULTURE (Flora).**—Make a fresh plantation in rich deep soil, taking well-rooted runners of the current year, planting them in rows 2 feet apart, and 18 inches from plant to plant. Next season do not remove the runners, but allow them to root between the rows, and after the crop is gathered and the runners well rooted out away the old plants, leaving the runners between the rows, keeping them to a row about a foot wide, manuring the space in autumn where the old plants have been growing. Alpine Strawberries may be planted now, but better plants are had from seed sown in gentle heat in spring, and the seedlings hardened off and planted out when ready. They will fruit in summer up to autumn; or seed sown now and the plants wintered in a frame, planting them out in spring, will give you earlier-fruited plants.

**POT VINES OVER HOT-WATER PIPES (Rus).**—Place the pots upon the hot-water pipes, and feed the roots liberally by surface dressings of rich compost and liquid-manure waterings. The roots wandering from the pots cannot be so readily fed as when they are confined to the pots. Our correspondent mentions "as a good Tea Rose Madame de St. Joseph, an old Rose, but with me quite a perpetual."

**MANURING A NEGLECTED GARDEN (G. R.).**—There is no concentrated manure which can entirely supersede the use of ordinary manures on exhausted soils, and never will be, for the simple reason that the principal fertilising properties of manure are contained in the gases given off during

decomposition. In your soil which has been cropped for seven years without manuring there is a lack of vegetable matter, and nothing but vegetable matter can thoroughly restore fertility. If the manure must be taken through the dwelling-house something should be sought for less objectionable than stable manure. Cocoa-fibre refuse is very good, and so is malt dust, while a slight sprinkling of artificial manure would do no harm. Of course every leaf which is grown in the garden and not required for other purposes should be restored to the soil. Flower beds have done well for several years manured only with the plants grown on them.

**PRUNING GOOSEBERRY AND CURRANT BUSHES (Idem).**—Bushes 6 feet through and touching each other may, if the growth is crowded, be thinned so as to admit light and air; and so long as there is not more than a third of the foliage removed they may be cut at once into any desired shape, bearing in mind that the fruit of Gooseberries and black Currants will be mostly produced on the young wood, and that of red and white Currants on spurs and wood which is two years old. You cannot grow a crop of vegetables under the bushes without injuring them, as in digging you would cut the roots, which extend at least as far as the branches, besides impoverishing the soil. Suckers of Raspberries coming up a distance from the stools should be cut off if not required for transplanting.

**LARGE SCARLET GERANIUMS (J. A. M.).**—The plants should not be pruned back in the autumn. They should be potted every year until they are established in pots of the size required, and then a good portion of the soil should be removed annually in spring, replacing it with a fresh rich compost of loam and decayed manure. When the pots are filled with roots copious supplies of water must be given, using manure water twice a week during the season of growth. Large plants are quickly established by planting them out for a year or two, potting them in the autumn and pruning away the gross sappy growths, permitting the short-jointed shoots to remain unshortened.

**NAMES OF FRUITS (Henderson).**—The Fig was smashed and quite unrecognisable. (*Connaught Subscriber*).—1 and 2, Corse's Nota Bene; 3, Belgian Purple.

**NAMES OF PLANTS (G. R. B.).**—It is a *Stapelia*, but we cannot say what the species is from so fragmentary a specimen. (*W. W.*).—1, *Bignonia grandiflora*; 2, *Rhus Cotinus*; 3, *Biota aurea*; 4, *Picea Nordmanniana*; 5, *Polystichum aculeatum* var.; 7, *Hibiscus syriacus*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

## DISQUALIFICATIONS.—PART 2.

ON July the 13th we wrote on this subject, and then alluded to the importance of the reason of the disqualification being always declared. We want to say a few more words on the subject this week, for since then the topic has been much ventilated and more disqualifications have taken place. One of our contemporaries went into the subject last week, and we agree with a great deal there written. It advocates that not only when an exhibitor has a bird disqualified he should forfeit the whole of his prizes won with other pens, but even proposes that anyone once disqualified should never be allowed to exhibit at the show again. This sounds all very good and proper, and we quite believe that very likely much improper work might be so stopped. But before anything very definite is arranged we think exhibitors too, as well as committees, should have their say. We have not the remotest intention of supporting a disqualified exhibitor if honestly disqualified, but we do say once more that the reason of the disqualification should be made known to all, that opportunity should be given to the owner of any doubtful bird to clear away the suspicion that the judge has not been very careful in what he has done. By enforcing such very strict rules about disqualifications we can see many difficulties. We will give one or two examples.

At a late show an exhibitor was disqualified for having a Spanish cock in the pen which had had its comb cut. Now this exhibitor had bought the bird of another exhibitor, having claimed it at the catalogue price at a show. When bought the bird's comb was in precisely the same state as when it was exhibited afterwards. Now we ask, Was this exhibitor to forfeit all the prize money and be debarred from ever exhibiting again at that show because of someone else's work? or would the matter be investigated and the real vendor and operator become the culprit? But surely then that party would say, "I never asked the purchaser in question to buy, and the bird was bought with its failings and merits, and so why should I be prevented from ever exhibiting again at this show?" Or would the disqualification under these circumstances fall through altogether, and the exhibitor have the prize money save of the one disqualified pen? If the latter, surely a great opportunity could be given to unprincipled people to palm off their own work on others. Or again, another instance: when a judge disqualifies a bird wrongly is the exhibitor to bear the blame for, perhaps, some crochets of an adjudicator? We remember once seeing a pair of Cochins belonging to one of our oldest and largest exhibitors at a summer show in the deepest moult. Breasts and thighs and backs were in many places bare, and their tail feathers were also entirely gone. This pen was disqualified because of the absence of the tails. Every exhibitor who understood a Cochins' points said that the judge had made a mistake, and that the tail feathers with the other feathers on the bird's backs and thighs had moulted out; for even had the bird desired trimming, no one in their senses, especially this Cochins exhibitor of a score of years' fame, would have bodily plucked



out the tails. Now this was one of the greatest of our agricultural shows, and was this exhibitor to be prevented from ever again showing there because of this mistake? Only last week a Cochon cock was disqualified for a cut comb, which belonged to one of our great exhibitors. We could prove without any doubt that the bird was in the same condition when it passed into that exhibitor's hands, yet is he to bear the blame, especially when he was ignorant of the fact? and as the vendor of the bird has since retired from the fancy, what would be done in such a case? We maintain that much as the poultry world would be benefited by some well-laid-down rules about disqualifying, yet we should be careful how we set about them. In these days, when birds often change hands two or three times in a season, it is very difficult to prove just where or by whom a bird has been plucked, cut, or doctored. Cases of staining and painting would be easier to trace. But even here many an exhibitor might be unfairly used and turned out of the list of some show unjustly, for over and over again birds are sold even to clever exhibitors which have been "done-up" in some way, yet without detection; and over and over again birds are bought in the exhibition pen at one show because they are apparently perfect, and yet have been well "set in order" before leaving home.

We hear that two or three of our judges have determined to make a great set against trimming and cutting. We are glad to hear it, and we will back them up in every way provided the cases are genuine and honestly proved, and we hope that those judges will not forget that Hamburgs' combs are much more chopped about than even the combs of Cochons or Spanish are. Before a clean sweep can be made of "improving" poultry fanciers, we are certain that some definite plan must be generally agreed upon about what is allowed and what is not; whether Spanish, Black Polands, Game, and Hamburgs may be beautified in one part of their bodies but not in others, and if so, to what extent this may go. We really believe that if the judges would have a meeting and throw aside for the occasion any petty jealousies of each other, they might come to some very satisfactory arrangement which would please most exhibitors. We would recommend their calling in some of the best authorities and breeders as well, and so try to put things on a better footing; for as matters are now there will always be disputes and troubles, as a bird may very likely win the cup under one judge and be disqualified under another.

As regards enforcing the penalties which our contemporary advocates, much as we agree with it that something wants doing, and that, too, at once, we hardly think that those it proposes will be as pleasing even to honest exhibitors as one might imagine; for an exhibitor who did not breed all his or her stock would very probably fear some such misfortune arising as it did to the owner of the Cochon hens a few months ago, to the owner of the Spanish cock a few weeks ago, to the owner of the Cochon cock a few days ago, because a disqualification will tend to damage their reputation even though they may be able to prove themselves innocent; for it is the fact of the thing which remains in the eyes of the world, and it is often impossible to remove the opinion that somehow or other the exhibitor has tried to mislead the judge and cheat other exhibitors. Of course some may find out that a bird has been "done up" after it comes into their possession, although they did not know it at the time of purchase, and then they never need show the specimen; but there are so many young and less skilled exhibitors, who would never find out anything wrong until the judge had discovered it and the mischief was done. We shall say no more, but look hopefully forward for the introduction of some decisive yet reasonable measures being adopted to remedy the evils of which so many have cause to complain.—W.

### POULTRY AND BIRD NEWS.

We understand that at Bath the Canaries and other birds are to be exhibited as before in the summer alcoves. Charming as are these recesses for the birds, we fancy they are somewhat chilly and cold. By September the evenings are often very cool and damp, and we have heard of many birds dying from the unwonted exposure. We should recommend all exhibitors consequently to see that their cages have a piece of stout muslin or some such stuff round them to keep out the draughts to some extent.

The Malmesbury prize money has been paid, and this within a week of the close of the Exhibition. Such quick settlements well deserve notice.

We understand that Mrs. Dring disposed of one of the pens of Crêves of her late husband's to Mrs. Webb of Stockingford Vicarage in May last. This was of course previous to selling the whole of the remainder to Mr. Burrell.

We are sorry to notice that the Aylesbury schedule has been altered without much improvement. A few extra classes have been added, but the prizes have been all reduced one-fourth. The variety Bantam class has been entirely cut out, and only

two prizes are promised in the Variety class, where Turkeys still have to take refuge. We doubt very much if the Committee will find the alterations have been for their good. The Leghorn Club guarantee the prizes in the Leghorn classes. The management at this Show is always extremely good, and the place of exhibition admirable in every way.

We have heard from Portsmouth in reference to the non-payment of the prizes, and hear that "the Committee are making all the efforts in their power to make wrong right, which they trust with a little indulgence from the exhibitors will enable them to act honourably to all." So far so good. Now, the question arises as to the shape the desired "indulgence" will take. Will it be in only part payment of the prizes, or is it only more time that is required? If the latter, we should be glad to hear how the money is proposed to be made up in the extra time. We think it would have appeared more satisfactory to exhibitors had the Committee, when the fourteen days had elapsed, sent round a little circular to exhibitors stating their difficulty.

In the last five months the value of eggs imported was £1,247,743; in 1875, £1,286,720.

### ROCHDALE SHOW OF POULTRY, &c.

THE annual meeting of this flourishing Society was held on the 23rd inst., in the grounds of Clement Boyd, Esq., J.P. The birds were placed in the open air with substantial wood pens fronted with wirework.

*Spanish* were first on the list, and these were of fair quality and moderately forward. *Cochons* were very good in both classes, *Buffs* winning except the first in cockerels. *Brahmas*, Dark cock first, a splendid bird, the remainder moderate. The pullets very well pencilled and sound in ground colour. Light were good, especially the pullets. In *Game* the Brown Reds were by far the best, the winners being well chosen. *Polish* were young, and were not of the highest merit. *Hamburgs* produced some capital chickens. Gold-spangled cockerels were very good so far as the winners were concerned, the second being highly promising. The first bird was about perfect, and was claimed, we were told, for £10 10s. In pullets were some almost equal to the hens in spangling. The Silver-spangled cockerels that won will be heard of again, both being of good quality; but the pullets were better than the Gold-pencilled cockerels. First a well-grown bird in good order; second quite young but a perfect bird. Pullets good and fine in pencilling, which worked well up the tail. The Silver-pencilled cockerels were not equal to the pullets, though the first was a very good one. Pullets very well grown and full of marking of the right stamp, but nothing was more perfect than the Blacks, for while three of the cockerels were near perfection, some of the pullets surpassed all the wish of breeders of but a few years ago, and it is quite certain that nothing has ever been seen equal to the first-prize bird. *Dorkings* were but moderate in quality; but the *Houdans* were much better in some points than we generally see them at this season, but bad in comb. *Malays* good and forward. To our surprise two Variety classes produced no entries. Game *Bantam* cockerels were only moderate except the winners, first being a Black Red, second a Fife, and third Brown Red. Pullets were better and showed to greater advantage than the cocks. The Variety class was made-up of Blacks and Sebrights, but the classes were not superior. *Ducks* and *Geese* were mostly of any age, as also the *Turkeys*, there being a capital show of these.

*Pigeons* were a grand display, the standard birds being much better than the other varieties, though, as a rule, most of the Pouters were very bad in feather, and the pens being somewhat small for them. In Carriers were some birds fit to make the eyes of an old fancier sparkle. Foremost among these being the Black cock shown by Mr. Fulton, and one placed second and shown by Mr. Hedley, the latter losing only in body, had an exquisite beak and eye wattle, the former being set on the right way. Several extra prizes were awarded. Almond Tumblers were very good, an extra second being given. Mr. Baker's Kite was again to the front, with a good Red second, and Agate third. Balds and Beards producing better birds than we have seen of late. English Owls were divided into two classes, the Blues being best. Antwerps were a good entry, the awards being evidently made on no fixed standard, but as is often the case in accordance with the taste of the Judge. Fantails were very good. Dragons were large classes and mostly well placed. There were some very cheap birds in the Selling classes.

With a very good list and in the centre of the stronghold of the Rabbit club, we certainly expected to find more than ninety-two entries. Lop-eared Self-colour were rightly placed, but the broken colours were decidedly wrong. The first a Fawn-and-white, the second a Black-and-white, which we thought should have been first. Silver-Greys were not well placed, the best being left out altogether. As we have remarked before, condition seems to be no point with the Rabbit-club Judges. Angoras were a fair lot, and seemed to be properly placed, although

we had not the privilege of handling them. Himalayans were good and well placed as far as we could see. This remark applying also to the Dutch.

**POULTRY.**—**SPANISH.**—*Cockerel.*—1, J. Thresh. 2, J. Roberts. *Chc.* J. Newt. *Pullet.*—1, C. Darby. 2, A. Darby. 3, G. Sidgwick. *Chc.* G. Sidgwick. *Pullet.*—1 and 2, Mrs. Tindal. *Chc.* T. Johnson. C. Sidgwick (2). **BRAHMAS.**—*Dark.*—*Cockerel.*—1, R. P. Percival. 2, Dawson & Greenwood. *Chc.* W. A. Wright. *Pullet.*—1, J. Tate. 2, W. A. Wright. *Chc.* E. Pritchard. R. P. Percival. H. Wilkinson. *Light.*—*Cockerel.*—1, R. P. Percival. 2, S. H. Lloyd. *Pullet.*—1, R. P. Percival. 2, J. Walker. **GAME.**—*Cockerel.*—1, T. Dyson. 2, E. Lund. 3, J. A. Mather. *Pullet.*—1, T. Dyson. 2, J. F. Walton. **POLANDS.**—*Cockerel.*—1, H. Beldon. 2, J. Kearney. *Pullet.*—1, G. J. Duckworth. 2, H. Beldon. **COCHINS.**—*Golden-spangled.*—*Cockerel.*—1, G. & J. Duckworth. 2, T. May. *Pullet.*—1, G. & J. Duckworth. 2 and *Chc.* T. Scholes. *Silver-spangled.*—*Cockerel.*—1, H. Beldon. 2, H. Pickles. *Pullet.*—1, J. Fielding. 2, H. Beldon. *Golden-pencilled.*—*Cockerel.*—1, H. Beldon. *Pullet.*—1, H. Beldon. 2, G. & J. Duckworth. *Silver-pencilled.*—*Cockerel.*—1, G. & J. Duckworth. 2, H. Pickles. *Pullet.*—1, H. Beldon. *Chc.* G. & J. Duckworth. **BLACK.**—*Cockerel.*—1, H. Beldon. 2 and *Chc.* C. Sidgwick. *Pullet.*—1 and 2, J. Lancashire. *Chc.* Hobson & Robinson. **DORKINGS.**—*Cockerel.*—1, J. Walker. 2, W. H. King. *Pullet.*—1 and 2, T. Briden. **CREVE-CŒUR OR HOUDAN.**—*Cockerel.*—1, W. F. Upsher. 2, R. A. Boissier. *Chc.* C. M. Saunders. *Pullet.*—1, G. W. Hibbert. 2, S. W. Thomas. **LA FLECHE OR MALAY.**—*Cockerel.*—1, J. H. Fletcher. 2, J. F. Walton. *Pullet.*—1 and 2, A. Smith. **BANTAMS.**—*Game.*—*Cockerel.*—1 and 2, E. Walton. 3, H. Dean. 4, W. F. Entwistle. *Pullet.*—1, E. Walton. 2 and 4, A. Smith. 3, G. Walker. *Any other variety except Game.*—*Cockerel.*—1, W. H. Shackleton. 2, J. W. Lloyd. *Pullet.*—1, W. Lloyd. 2, W. H. King. **AYLESBURY.**—1 and 2, J. Walker. **ROUEN.**—1, J. Walker. 2, W. H. Rothwell. *Chc.* T. Wakefield. *Any variety or sex.*—*Duckings.*—1, T. Wakefield. Extra 1, J. Walker. 2, W. H. Rothwell. 3, Dr. E. Lloyd. **GEES.**—1 and 2, J. Walker. *Goslings.*—1, J. Walker. 2, J. Mills. **TURKEYS.—1, J. Walker. 2, W. H. Garforth. *Any VARIETY.*—1, A. Darby. 2, Mrs. M. Carter. **SELLING CLASS.**—1, J. J. Walker. *Any Dawson & Greenwood.* *Chc.* W. A. Burnell.**

**PIGEONS.**—**WOODS.**—*Blue.*—1, R. F. Entwistle. 2, R. Fulton. 3, J. Baker. *Hen.*—1, E. A. Thornton. 2, R. Fulton. 3, J. Baker. *Any other colour.*—*Cock.*—1, J. Baker. 2, R. Fulton. 3, E. A. Thornton. *Hen.*—1, R. Fulton. 2, E. A. Thornton. 3, J. Baker. **CARRIERS.**—*Black.*—*Cock.*—1 and 3, R. Fulton. 2, J. Baker. M. Hedley. *Hen.*—1, R. Fulton. 2, J. Baker. R. Fulton. *Any other colour.*—*Cock.*—1, R. Fulton. M. Hedley. 4 and *Chc.* R. Fulton. *Hen.*—1 and 3, R. Fulton. 2, M. Hedley. *Chc.* R. Fulton. M. Hedley. *Any colour.*—*Young.*—1, R. Fulton. 2, M. Hedley. *Chc.* M. Hedley. **TUMBLERS.**—*Almond.*—1, J. Baker. 2, J. Baker. H. Yardley. *Any other variety.*—1 and 2, J. Baker. 3, R. Fulton. **BALDS OR BEARDS.**—*Short-faced.*—1, A. Hastie. 2, R. Fulton. 3, J. Baker. *Long-faced.*—1, W. Ellis. 2, J. Baker. 3, R. Woods. *Chc.* J. Brown. R. H. Unsworth. *Any other variety Long-faced.*—1 and 2, J. Brown. 3, J. Carrell. *Chc.* W. Ellis. **OWLS.**—*Foreign.*—1 and 3, R. Fulton. 2, J. Baker. *English.*—*Blue.*—1, F. Eastwood. 2, J. Thresh. 3 and *Chc.* J. Chadwick. *White.*—1, R. H. Unsworth. 2, J. Chadwick. 3, R. Fulton. Extra 3, R. H. Unsworth. R. Woods. *Chc.* J. Baker. R. H. Unsworth. **BARKS.—*Cock.*—1, J. Firth. 2, R. Fulton. 3, J. Royle. *Chc.* R. Fulton. J. Royle. *Hen.*—1 and 3, T. Charney. 2, J. Royle. *Chc.* J. Firth (2). *Any colour.*—*Young.*—*Cup* and 1, J. Firth. 2, W. Massey. 3, R. Fulton. *Chc.* J. Firth. R. Fulton. **TURBITS.**—*Red or Yellow.*—1, J. F. Crowther. 2, W. Dugdale. 3, W. Lumb. *Any other colour.*—1, R. Woods. 2, J. Baker. Extra 2, R. Fulton. 3 and Extra 3, E. A. Thornton. **JACOBS.**—*Red or Yellow.*—1 and 2, R. Fulton. 3, J. Baker. *Any other colour.*—1 and 3, R. Fulton. 2, J. Brown. **ANTWERPS.**—*Long-faced.*—1, J. Wright. 2, J. Lister. 3, W. Ellis. Extra 3, C. Hopwood. *Chc.* G. Thickett. S. Wade. *Long-faced.*—*Young.*—1 and 3, J. Wright. 2, J. Lister. Extra 3, W. Ellis. C. Hopwood. *Chc.* W. Ellis. *Short-faced Dun.*—*Cock.*—1, A. Bingham. 2, J. Wright. 3, J. J. Bradley. J. Wright. *Chc.* F. Eastwood. J. Eckroyd. *Short-faced.* *Any other colour.*—*Cock.*—1 and 2, J. Eckroyd. 3, J. Eckroyd (2). J. Wright. *Hen.*—1 and 3, J. Wright. Extra 3, J. Eckroyd. *Chc.* F. Eastwood. *Short-faced.* *Young.*—1, J. J. Bradley. 2, J. Wright. 3, C. Hopwood. *Chc.* J. Eckroyd. J. Wright (2). **FANTAILS.**—*White.*—1, Q. Buhm. 2, J. Baker. 3, J. H. Smith. *Any other colour.*—1 and 2, J. Baker. 3, C. Buhm. **DRAGONS.**—*Blue.*—1, W. Massey. 2, A. Bingham. 3, R. Woods. *Chc.* J. Eckroyd. W. Smith. *Young.*—1, R. Woods. 2, W. Smith. 3, W. J. W. Fass. *Chc.* R. Fulton. *Any other colour.*—1 and 2, W. Smith. 3, R. Woods. *Chc.* J. Baker. J. Eckroyd. *Young.*—1 and 2, W. Smith. 3, R. Woods. **MAGPIES.**—1 and 2, J. B. Bowden. 3, J. Baker.**

**BIRDS FOR HOMING PURPOSES.**—1 and 2, W. Ellis. 3, T. H. Stretch. *Chc.* J. Lister. G. Thickett. **ANY OTHER VARIETY.**—1 and 2, R. Fulton. 3, A. Simpson. *Chc.* J. H. Smith. H. Yardley. **SELLING CLASS.**—*Single Bird.* either *Pouter* *Carriers*, *Tumblers*, *Foreign Owl*, or *Barb.*—1, J. Baker. 2, W. Markland. *Single Bird.* *Any variety not mentioned in the preceding class.*—1, W. Markland. 2, T. H. Stretch. *Chc.* R. Fulton.

**RABBITS.**—**LOP-EARED.**—*Broken-coloured.*—1, Schofield & Barrett. 3, T. and E. J. Fell. **SILVER-GRAY.**—1 and 2, A. Hudson. 3, Schofield & Barrett. **ANGORA.**—1, R. Jones. 2, R. Jones. 3, R. Jones. **REARER.—*Chc.* J. Jewison. J. Jones. **HIMALAYAN.**—1, T. & H. Foster. 2, J. B. Noble. **SCHOFIELD & BARRETT.—*Chc.* E. Robinson. **ANY VARIETY.**—*Young, bred by and the property of a Member of the Rochdale Fancy Rabbit Club.*—1, C. G. Mason. 2, G. Brown. **ANY OTHER VARIETY.**—1, W. Lumb. 2, E. Robinson. Extra 2, H. E. Gilbert. 3, D. Oldfield. **SELLING CLASS.**—1, Schofield & Barrett. 2, D. Oldfield. 3, S. A. Clegg.****

**JUDGES.**—*Poultry:* Mr. R. Teebay, Fulwood, Preston; Mr. E. Hutton, Pudsey, near Leeds. *Pigeons:* Mr. F. Esquilant, Brixton, London; Capt. Heaton, Worsley; Mr. H. Allsopp, Birmingham; and Mr. R. Brierley, Fishpool, Bury. *Rabbits:* Mr. W. Allison, Sheffield.

## HALIFAX SHOW OF POULTRY, &c.

THE thirty-eighth annual Show was held on the 26th inst., when the day was exceedingly fine and breezy and most enjoyable.

Game headed the list in poultry, and these were single birds. In Black Reds the cockerels were poor, but the pullets a better lot; but Brown Reds in both classes were superior to them, and in Duckwing pullets were some very good pens; but the highest quality was attained in the Pile cockerels in the Variety class, although these were not as well forward as some of the above. Next of great interest were the *Hamburghs*, which were a good lot; the Gold-spangles, winners at Rochdale, taking the cup for the best pen in the Show. *Bantams* were largest in number, and the pick of the season came to the front, the Black Reds being particularly good.

*Pigeons* were shown as often recommended by us—singly, and the entries were much greater than at previous shows, three of the London giants contending for the premiership; and excitement was worked-up to a very high pitch in Carriers especially,

where we saw more high-class birds in so small a group than at any previous Show. The first was a Black cock, shown at his best, and looking well in these pens, splendid in beak and eye wattle, and grand in neck and style, a point we contend for in Carriers. Dragoons were very good in both classes, as also the foreign Owls; and Jacobins and Fantails a smart lot.

**POULTRY.**—**GAME.**—*Black Red.*—*Cockerel.*—1, M. Jowett. 2, E. Winwood. *Pullet.*—1, J. Hird. 2, T. Dyson. *Brown Red.*—*Cockerel.*—1, T. Dyson. 2, J. Spencer. *Pullet.*—1, J. F. Walton. 2, T. Dyson. *Duckwing.*—*Cockerel.*—1, T. Dyson. 2, J. A. & H. H. Staveley. *Pullet.*—1, M. Jowett. 2, J. Temperst. *Any other variety.*—*Cockerel.*—1, E. C. & W. J. Mason. 2, G. Higgin. *Pullet.*—1, G. Higgin. 2, H. C. & M. C. Mason. **SPANISH.**—*Chc.* J. Roberts. 2, J. Newton. **DORKINGS.—1, T. Briden. 2, J. Walker. **COCHINS.—1 and 2, C. Sidgwick. **BRAHMAS.**—1, E. Pritchard. 2, W. Mitchell. **HAMBURGS.**—*Golden-spangled.*—1 and 2, G. & J. Duckworth. *Silver-spangled.*—1, H. Stanworth. 2, H. Pickles. *Golden-pencilled.*—1, G. & J. Duckworth. 2, H. Pickles. *Silver-pencilled.*—1, G. & J. Duckworth. 2, H. Smith. *Black.*—1, H. Pickles. 2, C. Sidgwick. **GAMB BANTAMS.**—*Red.*—1, A. S. Sugden. 2, E. Walton. *Any other colour.*—1, W. Shaw. 2, E. Walton. *Cockerel.*—1, W. F. Entwistle. 2, G. Walker. **BANTAMS.**—*Black or White.*—1 and 2, C. & J. Illingworth. *Any other variety.*—1, J. Walker. 2, E. Walton. **ANY OTHER VARIETY.**—1, H. Pickles. 2, F. Walton. **GESE.**—1, J. Walker. 2, F. E. Rawson. **DUCKS.**—*Rouen.*—1, J. Walker. 2, F. E. Rawson. **AYLESBURY.—1 and 2, J. Walker. *Any other variety.*—1, J. Walker. 2, H. B. Smith. **TURKEYS.—1, J. Walker. 2, F. E. Rawson. **SELLING CLASS.**—1, W. A. Fenwick. 2, C. Carr.********

**PIGEONS.**—**POTTERS.**—*Cock.*—1, J. Baker. 2, R. Fulton. *Hen.*—1, R. Fulton. 2, W. Thornton. **CARRIERS.**—*Cock.*—1, M. Hedley. 2, R. Fulton. *Hen.*—1, M. Hedley. 2, R. Fulton. **TUMBLERS.**—*Almond.*—1 and 2, J. Baker. *Any variety.*—1 and 2, J. Baker. **DRAGON.**—1, W. Smith. 2, J. Baker. **TRUMPETER.**—1, F. W. Horne. 2, J. Baker. **OWLS.**—*English.*—1, R. Fulton. 2, H. Stansfield. *Foreign.*—1, R. Fulton. 2 and *Chc.* J. Baker. **TURBIT.**—1, R. Woods. 2, J. Baker. **JACOBI.**—1 and 2, R. Fulton. **FANTAIL.**—1, J. F. Loversidge. 2, J. Baker. **BARB.**—1 and 2, M. Hedley. **MAGPIE.**—1, R. Fulton. 2, J. Baker. **ANTWEP.**—1, R. Fulton. 2, W. F. Entwistle. **ANY OTHER VARIETY.**—1, A. Simpson. 2, T. Foster. *Chc.* R. Fulton. **SELLING CLASS.**—1, T. E. Hainsworth. 2, T. Foster.

**JUDGES.**—*Poultry:* Mr. Teebay. *Pigeons:* Mr. Esquilant.

## WARMINSTER POULTRY SHOW.

THIS Exhibition was held on the 25th inst., and was an extremely satisfactory meeting. Mr. Hinton was indefatigable in his work, and the arrangements were admirable. If all poultry shows had such a Secretary there would very rarely be heard any complaints, for the feeding, penning, and dispatch to the station were all well done. The Judge was Mr. G. S. Sainsbury of Devizes, who has judged this Show since its commencement, and his awards were most carefully made and well received.

In the first class the *Houdan* hen of pen 4 (Sturt) was dead when she arrived. We viewed her body, and feel sure they must have had first prize, for the winning *Dorkings*, though large, were swollen in toes and out of feather. In the next class *White Cochins* were first; the hen large and white, but the cock a little out of feather. Capital adult *Light Brahmas* won second, and neat chickens of the same breed third. *Malays* were good, and were much superior to the *Game* in excellence. A large pair of birds won first; the hen was an adult, the other a very promising and large cockerel. Fair *Brown Reds* were second in this class, third going again to good *Malay* chickens. In *Bantams* *White-booted* won first, *Blacks* second, and *Black Red* Game third. In the *Variety* class a good pair of *Silky* chickens were first, adult *Silver Poles* second; the cock quite young, and promising to come out of his moult a fine bird; and very good *White-crested Blacks* third. The chicken class was splendid; it contained twenty-three pens of great excellence, and two firsts, two seconds, and two thirds were awarded. Very forward and large *White Cochins* won one first, and splendid *Malays* the other; good *Light Brahmas* and *Crèves* won the seconds, and *Brown Leghorns* and *Dorkings* the thirds. We noticed here a most promising pair of *White-crested Poland* chickens (Norwood); the cockerel is not quite ready yet, but of much promise.

*Pigeons* were very difficult to judge, for they were all classed together, and the quality was very fine. The first *Carriers* were very good in head properties and had smart carriage; second went to good *Black Barbs*, their beaks and eyes being very good; third to admirable true *Dragons*, but they had begun to moult, and so their wing bars were not so prominent and perfect as they might have been; they were a very good pair, and deserved their place; highly commended (Randall) good *Burmese* and *Red Barbs* (Sugden). In *Toys* pretty *Turbits* (Red) were first, but their pen was so small they did not appear to advantage; second fairly cleanly-cut *Black Baldheads*; third very promising baby *Fantails*.

A fine pen of *Gold Pheasants* won first, and nicely marked *Guinea Fowls* third. In birds one of the most exquisite pairs of *Green Love Birds* we ever saw took first, an *Amazon Parrot* second, and a *Yellow-backed Whydah* in good feather third; highly commended (Miss J. Hinton) an *Amazon Parrot*, which talked splendidly, but was perhaps not quite in so full feather as the second-prize one. We furnish the awards below.

**POULTRY.**—**DORKINGS OR FRENCH.**—1, H. Astley. 2 and 3, J. Hall. **COCHINS OR BRAHMAS.**—1, Rev. R. S. S. Woodgate (White). 2, Mrs. Holmes (Light Brahmas). 3, H. E. Scammell. **SPANISH, ANDALUSIANS, MINORCAS, OR LEGHORNS.**—1 and 2, H. Randall (Minorcas and Andalusians). 3, J. H. Bartram (Spanish). **GAME OR MALAYS.**—1 and 3, J. Hinton (Malays). 2, J. Musprat (Game). **HAMBURGS.**—1, R. Strong. 2 and 3, not awarded. **BANTAMS.**—1, Rev. R. S. S. Woodgate (Booted). 2, J. H. Bartram. 3, J. Lorraine. **ANY OTHER VARIETY.**—1, Rev. R. S. S. Woodgate. 2, J. Hinton. 3, T. Norwood. **ANY VARIETY.—CHICKENS.**—Equal 1, Rev. R. S. S. Woodgate, J. Hinton. Equal 2, H. E. Scammell, H. M. Sturt.

Equal 3, J. Hall, H. Randall. Ducks.—1, not awarded. 2, J. S. Maggs. 3, S. E. Bacht. PHEASANTS AND GUINEA FOWLS.—1 and 3, J. Lorraine. 2, E. F. Edwards.  
PIGEONS.—HIGH CLASS.—1, J. James. 2 and 3, Hon. W. Sugden. Toys.—1, J. S. Maggs. 2 and 3, E. Hinton.  
COTTAGERS' PRIZES.—1, H. Hills. 2, J. Gibbs. 3, W. Wells.  
CAGE BIRDS.—1 and 3, Mrs. Holmes. 2, Mrs. Wilcox.

### HETTON SHOW OF POULTRY, &c.

THE annual Show of this well-managed Society took place on the 23rd inst. in the splendid grounds of Hetton Hall, which are a treat to visit, let alone any other attraction. In previous years a tent was provided for the poultry, but this time they were tried in the open air, and fortunately the weather was favourable and all passed off well. Several other shows being on, some of the classes were small, but on the whole the quality of the winners was very good, and as a rule they were well placed.

Among the old birds the *Cochins* stood quite out in point of quality. The Gold-spangled *Hamburghs* being very good; Silver-spangled were placed as at Sunderland; Pencils were poor in feather and faded. *Game* good, Brown Reds winning. *Game Bantams* nothing extra, but in young birds they were very good; and *Hamburghs* as a whole only moderate in quality. In the Variety class of chickens Buff *Cochins* won both the prizes.

*Pigeons* were not numerous, but of fair quality. We were surprised that none of the Sunderland cracks were there.

#### OLD BIRDS.

POULTRY.—SPANISH.—Black.—1, R. Shield. DORINGS.—1, T. P. Carver. COCHINS.—1, 2, and 3, G. H. Proctor. BRAHMAS.—1, T. P. Carver. 2, R. Shield. HAMBURGH.—Golden-spangled.—1, R. Keenleyside. 2, T. P. Carver. 3, Holmes and Deatner. Silver-spangled.—1, G. Alderson. 2, J. Hudson. 3, Holmes and Deatner. Golden-pencilled.—1, T. P. Carver. 2, A. Stephenson. 3, J. Hudson. Silver-pencilled.—1, Holmes and Deatner. 2, Davidson & Pattison. 3, D. Clow. POLANDS.—1, J. T. Proud. 2, T. P. Carver. GAME.—Red.—1, G. Carver. 2, Davidson & Pattison. 8, Holmes & Deatner. Any other colour.—1, Holmes and Deatner. 2, J. Dowell. GAME BANTAMS.—Red.—1 and 2, J. Robson. 3, T. Dowell. Any other colour.—1, J. Robson. 2, J. Mayo. 3, T. Dowell. BANTAMS.—Any variety.—1 and 2, Rev. H. A. Hawkins. 3, J. Mayo. DUCKS.—Rouen.—1, C. J. Young. 2, Rev. J. G. Milner. 3, W. Whitfield. Aylesbury.—1, F. E. Gibson. 2, and 3, M. Walker. Any other variety.—1, R. H. Ashton. 2 and 3, Rev. J. G. Milner. ANY OTHER VARIETY.—1, Rev. J. G. Milner. 2, J. Hudson. 3, R. Hawkins.

#### CHICKENS.

POULTRY.—SPANISH.—Black.—1, Rev. H. A. Hawkins. 2, T. & R. Miller. DORINGS.—1, J. T. Proud. BRAHMAS.—1, R. Shield. 2, T. & R. Miller. HAMBURGH.—Golden-spangled.—1, J. Hudson. 2, W. Bearpark. Silver-spangled.—1 and 2, W. Bearpark. Golden-pencilled.—1, G. Davidson. 2, T. & R. Kidson. Silver-pencilled.—1, J. Hudson. GAME.—Red.—1, W. Bearpark. 2, T. & R. Miller. Extra, T. & R. Kidson. Any colour.—1, J. Robson. 2, G. Scarth. GAME BANTAMS.—Red.—1, D. Hunter. 2, G. Carter. Extra, J. Sanderson. Any colour.—1, J. Robson. 2, G. Scarth. BANTAMS.—Any variety.—1, T. P. Carver. 2, R. H. Ashton. POLANDS.—1, T. Bowes. ANY OTHER VARIETY.—1 and 2, G. H. Proctor.

PIGEONS.—CARRIERS.—1, P. Wilson. 2, G. Green. POUTERS.—1, P. Wilson. 2, P. D. Henderson. TUMBLERS.—1, J. G. P. Newby. 2, N. G. Willis. FANTAILS.—1, P. Wilson. 2, J. G. P. Newby. OWLS.—1, R. Hall. 2, J. Young. TRUMPETERS.—1, P. Wilson. 2, R. S. Magee. BARBS.—1, P. D. Henderson. 2, W. Chappelow. TURBITS.—1, T. P. Carver. 2, T. Bainbridge. JACOBS.—1, J. Young. 2, P. D. Henderson. DRAGONS.—1, W. C. Moody. 2, G. Barker. ANY OTHER VARIETY.—1, F. C. Fenwick. 2, R. S. Magee.

RABBITS.—LOP-EARED.—1, D. Hunter. 2, T. Johnson. ANY OTHER FANCY BREED.—1, M. Rowland. 2, J. Wakon. COMMON BREED.—1, J. Hudson. 2, J. Lawson.

JUDGE.—Mr. John Preston, Allerton, Bradford.

### BAWTRY SHOW OF POULTRY, &c.

THE second Show of poultry was held in Bawtry Park on the 22nd inst. The grounds are very excellent for the purpose, being in a central position, and are well adapted for a grand Show, but in this case the prizes were small and the classes few in number, but the entries were two hundred in all.

*Dorkings* headed the list; the first a very good pen. *Brahmas* a failure, if we except the first, a good pair of the Dark variety. *Cochins* a failure, but two pens of *Spanish* were very good, and the champion prize for the best pen in the Show was awarded to them. In *Game* we found some good specimens, particularly the first and extra Duckwing, a pen of old birds. In single birds a Pile was first and Black Red second, both very good. *Game Bantams* a fair class, all the prizes going to Piles, mostly chickens, and very promising. *Hamburghs* bad, except the first-prize Silver-pencils, which won the special. In the Variety class Gold *Polands* were first, and Silver *Sebrights* second. *Ducks* large and good; the first Rouens and second Aylesburys. The cup for the greatest number of points was won by Mr. Newbitt.

*Pigeons* were very good in some classes, while in others they were very bad, the Fantails being the worst. Carriers a moderate lot, while the Pouters were good; first a grand Blue cock, second a hen of that colour. In Barbs first was Dun and second Red, both cocks; and in Tumblers, first Almond and second Agate. In Dragons the first Blue was a good one all through, second a fair Red. Jacobins were the best class of Pigeons, and three prizes were awarded; first and third Reds, and second Black. Turbitts a nice lot; first a Silver hen, and second a Red of this year. Magpies very good, as also the Nuns; and in the Variety class first was a Trumpeter, and second a Fairy Swallow.

*Rabbits* had but two classes; the first prize was awarded to a

sober-looking little Black-and-white Dutch, which was nearly perfect; second to that being a Grey, a little more irregular in marking; and third to a Fawn. Lops were poor, except the first, which was a pretty fair Fawn-and-white doe. Point cup Miss Tofield.

POULTRY.—DORINGS.—1, W. Harvey. 2 and 3, W. G. Lysley. BRAHMAS.—1, J. Wells. 2, H. Digby. COCHINS.—2, W. Gibbs. 3, C. A. Swindin. SPANISH.—Extra 1 and Champion Prize, J. Powell. 2, E. Harrison. GAME.—Extra 1, H. C. Mason. 2, W. Wilcock. 3, J. N. Jackson. COCK.—1, H. C. Mason. 2, J. Woods. 3, J. N. Jackson. GAME BANTAMS.—1 and 2, E. Newbitt. 3 and 4, H. Elwis. HAMBURGH.—Gold or Silver-spangled.—Extra 1, J. Ward. Gold or Silver-pencilled.—1, Extra, and 2, H. Digby. ANY OTHER VARIETY.—1, W. Harvey. 2, W. Bygott. 3, Mrs. Mellish. DUCKS.—1, Miss E. Tofield. 2, Dr. E. Snell. 3, W. Bygott. GEES.—1, T. Stephenson. SELLING CLASS.—1, J. Powell. 2, Miss E. Tofield. 3, J. N. Jackson. LOCAL CLASS.—1, Miss E. Tofield. 2, R. Hoyle. 3, H. Wilson.

PIGEONS.—CARRIERS.—Cock or Hen.—1 and 2, Miss E. Tofield. 3, J. Kendall. POUTERS.—1, 2, and 3, Miss E. Tofield. BARBS.—1 and 2, Miss E. Tofield. TUMBLERS.—1 and 3, J. Kendall. 2, Miss E. Tofield. FANTAILS.—1, J. F. Loveridge. 2, Vaughan & Heath. DRAGONS.—1 and 2, J. Kendall. JACOBS.—1, J. Kendall. 2 and 3, J. Powell. 4 and 5, Miss E. Tofield. TURBITS.—1, J. Kendall. 2, F. Down. 3, J. Cargill. MAGPIES.—1 and 2, Miss E. Tofield. 3, J. Cargill. NUNS.—1 and 2, Miss E. Tofield. 3, J. Cargill. ANY OTHER VARIETY.—1 and 2, Miss E. Tofield. 3, J. Kendall. SELLING CLASS.—1, 2, and 3, Miss E. Tofield.

RABBITS.—LOP-EARED.—Buck or Doe.—1, J. M. Mander. 2, J. Taylor. ANY OTHER VARIETY.—Buck or Doe.—1, J. G. Abland. 2, J. M. Mander. 3, R. Newbitt.

JUDGE.—Mr. E. Hutton, Pudsey.

### NEWBURY POULTRY SHOW.

Good summer shows in the south of England are few, and a well-managed one at a time when chickens begin to make their appearance in the exhibition tent is sure to be a success, especially if it lasts but one day, for this arrangement (we can personally vouch for it) attracts many exhibitors of young stock who would not submit their birds to two or three days' confinement. Under such conditions was the Newbury Show held on the 22nd inst. It is but the second meeting of the Society, and as there were over five hundred entries it bids fair to become a leading show. The grounds at Speen in which it took place are exceedingly attractive. From a neat old-fashioned garden a park descends rapidly, with abundance of magnificent elms for shade. After a threatening morning the day came out hot and lovely, and crowds of people seemed to enjoy the fête. There were three splendid marquees—two filled with singularly good flowers and exotics, the third devoted to the poultry. The Show was particularly interesting from the first appearance of many remarkable chickens, some of them prodigies of size for their age, destined, probably, to be among the most renowned winners of the year.

Eighteen classes (for the most part for single birds), and all for birds of any age, came first, with a champion cup for the best pen in the section. This was awarded to a very pretty Light Brahma pullet. Dark *Brahmas* headed the list. The winning cocks all good; the first in by far the best feather. Of the three prize hens the two first were wonderfully marked; the third, too, a good Dark bird. The Light Brahma cocks were fair; the hens, or rather pullets (for all three winners were apparently pullets, though one was stated to be five years and a half old), excellent. Mrs. Acton Tindal's famous old winner was obliged to be content with a highly commended. *Cochins* were, generally speaking, out of condition, as they always are in August. The first-prize birds, both cock and hen, in the Buff classes were well placed, and singularly characteristic specimens of the true Cochins form. In the Variety Cochins classes Mrs. Acton Tindal took both firsts with Whites, remarkable rather for shape than great size. Partridge were in each class second, the cock a splendid bird. *Dorking* hens were better than the cocks, save the first-prize cock, a fine Silver-Grey. The first hen was an excellent Dark bird, the second a large White well shown. *Game* were, save the first cock and two prize hens (Brown Reds), in wretched condition. The third prizes were properly withheld. Two pairs did duty for *Spanish*. The least bad of them was fortunate enough to get a third prize (no third was offered in the schedule!). The other pair were really remarkable creatures—red-faced, and the cock had the most singular comb we ever saw, about 4 inches high and 1½ inch broad, in shape a parallelogram, and somewhat resembling the Shah's head-decoration. *Polish* were a good class. We were glad to see a capital pen of White-crested Blacks first, beating good Golden and Silver. We often think this handsome and useful breed is unfairly put behind the other varieties. *Hamburghs* do not deserve mention. Black *Hamburghs*, Crêves, and Malays won in a tolerable Variety class; and in *Bantams* Black Rose-combed birds were an easy first.

The chicken classes were far better than the latter of the general classes. A cup was offered and awarded to the first *Brahmas*, a very forward Dark pair, shown by Mr. Pritchard; the pullet was of that very dark type which we much admire, with really black markings on a white ground. Second were Lights, and third Darks. The cockerel in the latter pen, if we mistake not, will develop into a very fine and remarkable bird. The first prize for Cochins chickens went to a marvellous pair of Partridge shown by Mrs. Acton Tindal. The cockerel, though still not spurred, is a perfect giant; the pullet exquisitely

marked, though we must say we did not like her very thick feathering on the inside of the legs; she was apparently moulting, and the multitude of short quills to our idea somewhat marred her beauty. The same exhibitor took second with a capital pair of Whites; the pullet a great beauty. In Dorking chickens all varieties save White appeared. First were an excellent Dark pair, second Silver-Greys pressing them closely. The latter variety seems decidedly advancing upon the Dark one. The class for chickens Any other variety was well filled. Malays, White-crested Polish, and Silver-pencilled Hamburgs won. In the two latter pens we preferred the pullets to the cockerels. A very highly commended was deservedly bestowed on some Silver-spangled Hamburgs; indeed, all the highly commended pens were good.

Ducks were not remarkable. In the class for Aylesbury or Rouen fine Aylesburies were first and second, Rouens third. Mr. Sainsbury's Black East Indians did not at all look themselves at this season.

In Pigeons two classes were given to Pouters, the same number to Carriers. The cup for the best pen of Pigeons went to Mr. Warren's Blue Pouter cock, a very grand bird. Dragons and Antwerps were very numerous. In Dragon cocks two Blues were first and second, a Yellow third; in hens a Yellow, Silver, and Red won. Most of the winning Antwerps were Red Chequers. Mr. E. Kendrick's cup cock is a perfect bird, very short in face. The first-prize Fantails and Tumblers were well ahead, as also Mr. Allen's White Owls first in the Variety class. Foreign and British birds each had a class. In the former a pair of Golden Pheasants were marked first, though in the schedule the class is for "the best bird;" a Lory took second, and a Green Parakeet third. A very tame and lovely Nightingale richly deserved its first card in the British class.

The Local classes were not, as a whole, so well filled as could be wished. The cup and several firsts were carried off by Mr. Ridley. We doubt if the proximity of so great an exhibitor promotes local entries. The cup Light Brahma cock, two Dark Brahma pullets, and a Coloured Dorking cockerel (barring his white earlobes), all were good, the first-prize La Flèche cock and hen in the two Variety classes super-excellent. The Committee seemed very attentive and courteous.

Mr. W. J. Nichols judged both poultry and Pigeons.

The prize list did not reach us in time for publication this week.

### DISEASES OF PIGEONS.

The best thanks of the fancy are due to Mr. J. H. Hutchinson for his article on this subject in page 177. I have cured wing disease by simply plucking the flight feathers of the wing affected, but have never been successful with any internal complaint, at least so far as I can recollect. What does Mr. Hutchinson say to the following case? I have a good warm loft, I live in the country, I keep but few birds (Jacobins), they have their liberty, they are kept very clean, and have the best of food and purest water. As a rule they are very healthy, but this year one pair has bred young birds cankered in the month—sometimes one, and at other times two of the young birds being so diseased. Last week two, hatched fine birds, died at about a fortnight old; their mouths were full of a white core, and upon that being removed (and it easily came off) there was a black and bloody sore like a grape in each throat. All the food given by the parents—sound peas, rolled into the nest, water only passing into the crops. The birds died of starvation, as there was no room to swallow. What would Mr. Hutchinson do in such a case? Is there a cure for birds so young?

Then, close to the pair breeding these diseased young all the season were other pairs, but not of the same strain—eating, drinking, and at liberty just the same—which have not had one single cankered young one. Does not this look like a case of hereditary disease? or why, if not, were not the young of other birds similarly affected? No doubt there is much in persevering with remedies, and some fanciers, like some people, have a natural turn for doctoring. Waiting Mr. Hutchinson's kind reply and advice, I remain as yet—A PUZZLED FANCIER.

### THE TORMENTORS OF OUR CAGE BIRDS.

OWING to the very warm summer we have had the multiplication of acari has been greatly favoured, and it may be advisable to remind bird fanciers that, in the case of the Finches especially, the birds suffer much discomfort, and may even have their lives shortened through the acari that are frequently introduced with the seeds. It is in vain to wash our birds or dust them over with insect-killers if we are perpetually bringing in unawares fresh pests. These acari, though like the hateful *Cimex lectularius* they can subsist on vegetable substances, much prefer blood when they can get it, and from the seed-bottle or drawer they easily transfer themselves to the plumage of birds or crawl out on the perches. It does not appear to be always possible to keep seeds free from these, but their increase

is hastened by the careless way in which seeds are stored by both wholesale and retail vendors, and there is a neglect of the process of sifting. All parcels of seeds should be looked over when purchased, and the dust examined more particularly. Rape and hemp seem chiefly to be resorted to by acari, canary and millet seeds less frequently.—J. R. S. C.

### REARING STOCKS AND FILLING SUPERS ARTIFICIALLY.

FAVOURABLE accounts with many questions come from many parts of the country. "My bees have done well this season. I have a great deal of run honey and some fine supers of comb. Will you kindly give me the name of a buyer of honey, or sell mine for me?" "Most of my hives are well filled and heavy; I don't know which to keep and which to put down. Can I cut some of the honey from them and keep all for stock? Some of the supers are not full, and the bees have not stored-up honey for some days though the weather is fine. How shall I succeed in getting the supers filled?" This is the sum and substance of many letters. One working man in Nottinghamshire wants to come over to see bees driven, as he knows of no way but the brimstone pit of taking the honey from his hives; he has twenty-two hives. Three working men in the north of Lancashire having read a well-known book on bees have entered into partnership, have increased their stock to nineteen hives this season, and are now seeking hives into which they will drive the bees from their honey hives on their return from the moors.

In answer we have to say, first, that we do not give the names of buyers of honey. Almost all who keep bees find in time a market for their honey.

Hives that weigh 60 lbs. contain about or above 30 lbs. of honey. We take, and advise others to take, the honey from such hives. The honey is worth 30s. or 35s. If the bees were driven into an empty hive and fed with sugar syrup the gain in cash would be more than 20s. Hives of 70, 80, and 100 lbs. weight should not be kept for stocks, as the great stores of honey in them would hinder healthy progress. "But the quantity of honey can be greatly reduced and still leave enough for the bees?" Yes, this may be done, but in our opinion it is better to drive the bees out and take all the honey, then feed them into stocks.

In giving syrup to swarms put into empty hives it may be given either too fast or too slow. If given too fast at first the bees are apt to build their combs rather thick and dumpy by elongating the cells. In times of rapid honey-gathering they do the same—build either dumpy or drone combs. If given too slow the bees live on it to a great extent, and do not build combs or store-up honey enough. We think it best to give the syrup in small doses for two or three days. After the foundations of five or six combs have been laid in a hive the bees may be fed more rapidly and kept at comb-building for a fortnight. If 20 lbs. of sugar (about 40 lbs. of syrup) be administered to a swarm of 5 lbs. in a 16-inch hive, in fifteen days the hive will be nearly filled with combs and their centre parts well filled with brood. To promote comb-building and breeding the hive should be kept warm by contracting the door and being well covered. There should be no cessation of feeding till all the syrup be given.

In filling supers artificially with combs and then giving the bees honey to store-up in them, it should be given to them as fast as they carry it up, for if bees are long in filling supers there is danger that breeding may be resorted to in them. If breeding begin in supers it is rather a difficult matter to get them well finished; but if brood be seen in them it should be cut out clean, and honeycombs from other hives placed in vacant places.

In feeding swarms into stocks it is of little importance whether they be fed from the top or bottom of the hives, but in filling supers the bees should be fed from below, for the less traffic and work done over sealed combs the better they look. The bloom can be taken off honeycombs as well as off grapes. If honey be built and finished downwards the honey should be carried upwards. Bees naturally do not sit on or travel over finished honeycomb, and in all artificial schemes the more closely nature is followed the more likely are we to succeed.

In filling supers on empty hives by feeding, the bees are apt to bring the combs down through the crown holes of the hives before the supers are finished. To prevent this the bee-keeper's ingenuity is called into play. It may be done sometimes by two supers, one above the other. While the top one is being finished the bottom one is being filled; thus all the honey given goes for super work and storing. In this artificial work we use only the purest virgin comb and the best of honey.

It is worth while to remember that all honey gathered from field flowers is first deposited in the brood and pollen combs; afterwards the indoor workers remove it to and store it in the virgin combs outside the brood combs and in supers. It is fortunate for the bee-master that his servants do not go from the fields with soiled feet and baskets of pollen on their legs to the



virgin combs of his hives. No field labourer is permitted to enter the best rooms of the house; the housemaids only carry the honey aloft.—A. PETTIGREW.

### HONEY EXHIBITION.

I SEE advertised an exhibition and sale of honey at the Alexandra Palace similar to that of last year at the Crystal Palace. Last year I sent up for exhibition and sale more than ten stones of honey. Though carefully packed by experienced bee-keepers here, I received from the Secretary a notice that it was all "smashed to pulp and utterly unsaleable," except as run honey at 10d. per lb. Finding, however, by the papers that I had won several prizes I wrote to make further inquiries; the reply was still the same. I have good reason to believe that my honey was afterwards sold in very fair condition indeed and in the comb. Through what I consider as mismanagement my poor cottagers, to whom, as was stated at the time, most of my honey belonged, have sustained serious losses. What guarantee do the Association give that such a similar fate will not this year overtake honey belonging to country exhibitors who cannot themselves attend the Show to look after it?—C. N. GRAY, Vicar of Helmsley, York.

### "THE MASSACRE OF THE INNOCENTS."

THE honey harvest now commencing is, I think, the time to enter a protest against the wholesale consignment of bees to the sulphur pit in order to take the honey. If the best market for honey could be pointed out, much, I think, might be done towards stopping the massacre of the innocents and converting their golden stores to hard cash. Many cottagers do not cultivate bees because they do not know how to dispose of the produce.

I went to a cottager's garden recently and saw a lot of hives in rows. The owner hesitated about taking the honey; he did not know how to take it otherwise than by stifling the bees, and when he had secured the honey he did not know how to dispose of it. "The missus didn't care about it, and didn't like the nasty stinging brutes." He thought he had nearly sold one hive.

I offered to drive his bees, give him the hive and honeycomb for the bees, which so shook his old superstitious notions that his hands fell down by his sides, and he expressed the utmost astonishment, remarking, "You must be daft [the polite term] to think of taking bees in broad daylight."

The above is only one instance, and I could give many more. Here is a man who will rise at 3 A.M. and work till 9 or 10, harvesting for a few shillings, and yet cannot turn to account the rich stores the "busy bee" has been gathering for him all the summer, from ignorance of ways and means of selling the honey and saving the bees.

I am informed this morning that the practice of killing the bees is general. I do what I can to stop the slaughter in this neighbourhood, and am anxious to assist in stopping it throughout the country.—GEO. W. JESSOP, Chertsey, Surrey.

### HONEY RECIPES.—No. 3.

THE prize dish of honey pastry at the Crystal Palace comprised several varieties of puffs and tarts where honey took the place of jam, and among them were the following.

**HONEY CAKES.**—1 lb. of butter,  $\frac{3}{4}$  lb. of honey,  $1\frac{1}{2}$  of flour, eight eggs. Butter and honey to be well mixed, and then the eggs added and well beaten together, and lastly add flour. Bake to a nice light brown colour.

**HONEY SHORTBREADS.**—Half a pound of honey, half a wineglass of cold water, two eggs, half a pound of butter,  $1\frac{1}{2}$  of flour. Mix the honey, water, and eggs together, then rub the butter into the flour, then mix the whole together very lightly and bake in a moderate oven. This quantity is sufficient for about twenty-five cakes.—JOHN HUNTER, Eaton Rise, Ealing.

### OUR LETTER BOX.

**ADDRESS (Jane).**—O. E. Crosswell, Esq., Early Wood, Bagehot.

**COCK'S SPUR ABSENT (Amateur).**—The loss will not disqualify him for exhibition, but a bird equal to him in other points and not deficient of a spur would be preferred by the judges.

**PERCHES FOR COCHINS (C.).**—We do not find them prefer the nests to the perches, but we did so till we altered our arrangements, and we now find them answer perfectly. Our house is a large one, and we keep from eighty to ninety fowls in it. Our perches stand on tressels at one end, and a ledge fastened to the wall at the other. When it is time they should go out the perches are piled in a corner, and the tressels removed. They are not put up again till it is near roosting time, when the fowls occupy them directly. Broody hens often squat in the nests, but we drive them out. If all other means failed we would remove the laying boxes for a time.

**WASHING POULTRY (R. W., Hants).**—Take some soap and water, and with a piece of flannel or sponge wash the plumage by wiping it the right way of the feathers. It is only the outside of the plumage that is dirty. If you see a white-feathered bird that is very dirty to look at, and you raise the

feathers, you will find they are perfectly clean underneath. You must then continue to wash by wiping gently, and above all, the right way of the feathers, changing the water frequently. When it is clean then put the bird in a basket with plenty of soft straw, and stand it in the sun till it is dry. In the winter when there is no sun the bird must be put before a fire till dry.

**TURKEYS' HEADS SWOLLEN (C. M.).**—Your young Turkeys have the roup. They are subject to it. It is gained either by roosting in a house with wood, stone, or brick floor; roosting where there are great draughts; or by being allowed their liberty with the hen in wet weather, or very early in the morning. Wash their faces with cold water and vinegar, feed them well on bread and ale, and give them pea and bean meal mixed with milk, with onion and nettle tops chopped fine and mixed with it. Above all, do not let them out in the morning (especially now we may expect frosts) till the sun is up and the grass dry, and let them be fed before they start. Do not give any rice. Ground oats slaked with milk, and bread and milk, are both good for feeding.

**FANCY RABBITS (G. F.).**—Write to Mr. Bailey, 113, Mount Street, Grosvenor Square.

**RABBITS (T. S. R.).**—Himalayan Rabbits have not long hair, and one having the head of a Himalayan and the skin of an Angora ought certainly to be disqualified if exhibited in the Himalayan class.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1876.  Aug.	Barometer at 3 p.m. and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
We. 23	29.819	58.6	.5	W.	64.0	69.2	50.2	116.4	47.2	—	
Th. 24	29.841	59.4	2.7	N. W.	63.6	69.7	48.8	120.2	43.4	0.020	
Fri. 25	29.960	55.0	43.8	N.	62.0	64.1	44.2	117.8	40.2	—	
Sat. 26	29.995	58.3	52.7	N. W.	61.0	66.9	43.8	118.5	38.0	0.041	
Sun. 27	29.686	60.0	—	S. W.	61.2	68.0	54.3	117.4	48.4	—	
Mo. 28	29.992	57.8	—	W.	60.5	67.7	47.3	99.7	41.8	0.113	
Tu. 29	29.666	62.0	—	S. W.	61.0	69.0	55.8	118.0	52.6	—	
Means.	29.851	58.7	52.7		61.9	67.8	49.2	115.4	44.5	0.174	

### REMARKS.

23rd.—A very fine day, but comparatively cool.

24th.—Another fine pleasant day, bright but cool; a slight shower.

25th.—Bright and fine, but from the wind being northerly it was rather cold.

26th.—Rather dull and very cool, looking likely for rain during the day, but it did not really rain till after 7 P.M., not heavy but rather windy.

27th.—A very pleasant day, at times very bright, and at other times cloudy; a very slight shower at 1.30 P.M., and again at 4.50 P.M.; fine after.

28th.—Cloudy morning; dull day; rain commenced at 5.30 P.M., and the evening was wet.

29th.—Windy morning and forenoon; bright, pleasant, but rather cool day. Temperature generally nearly 10° lower than in the previous week. This marked fall has also been noticeable in the temperature of the soil, which has fallen from 70.8° on the 18th to 60.5° on the 28th.—G. J. SIMONS.

### COVENT GARDEN MARKET.—AUGUST 30.

THE market is now very thinly supplied with nearly all classes of goods with the exception of Apples, there being a larger quantity arriving than was anticipated, but prices remain much the same, business being generally very quiet. We are now receiving the usual large consignments of Grapes from the Channel Islands, causing a great fall among ordinary samples of home growth.

#### FRUIT.

		s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	dozen	4	0	5	0	Nectarines.....	dozen	3	10	0
Apricots.....	dozen	0	0	0	0	Oranges.....	dozen	0	0	24
Cherries.....	lb.	0	0	0	0	Peaches.....	dozen	8	0	12
Chestnuts.....	bushel	0	0	0	0	Pears, kitchen.....	dozen	0	0	0
Currants.....	dozen	0	0	0	0	Pears, dessert.....	dozen	1	6	8
Black.....	do.	0	0	0	0	Pine Apples.....	lb.	2	0	6
Figs.....	dozen	1	0	5	0	Plums.....	dozen	7	6	10
Fibers.....	lb.	0	6	1	0	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	0	6	6	0	Strawberries.....	lb.	0	0	0
Lemons.....	dozen	10	12	0	18	Walnuts.....	bushel	0	0	0
Melons.....	each	2	0	5	0	ditto.....	dozen	0	0	0

#### VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	4	0	5	0	Leeks .....	bunch	4	0	0	0
Asparagus.....	dozen	0	0	0	0	Mushrooms.....	pottle	1	0	2	0
French.....	bunch	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	0
Beans, Kidney.....	dozen	0	8	0	0	Onions.....	bushel	2	0	5	0
Beet, Red.....	dozen	1	6	3	0	Pickling.....	quart	0	4	0	6
Broccoli.....	bunch	0	1	6	0	Parsley....	doz. bunches	2	0	4	0
Brussels Sprouts.....	sieve	0	0	0	0	Parsnips.....	dozen	0	9	1	6
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	9	1	6
Carrots.....	bunch	0	4	0	0	Potatoes.....	bushel	2	6	8	0
Capsicums.....	dozen	1	6	2	0	Radishes.....	doz.	3	0	8	0
Cauliflower.....	dozen	1	0	4	0	Runner Beans.....	bushel	0	8	0	9
Celery.....	bunch	1	6	2	0	Salsify.....	bushel	0	3	1	0
Coleworts.....	doz. bunches	2	0	4	0	Scorzonera.....	bunch	1	0	0	0
Cucumbers.....	each	0	2	0	0	Seakale.....	basket	0	0	0	0
Endive.....	dozen	1	0	2	0	Shallots.....	lb.	0	8	0	6
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	1	6	2	6
Garlic.....	lb.	0	6	0	0	Tomatoes.....	dozen	4	0	5	0
Herbs.....	bunch	0	8	0	0	Turnips.....	bunch	0	4	0	6
Horseradish.....	bunch	4	0	0	0	Vegetable Marrows.....	dozen	0	2	0	0
Lettuce.....	dozen	0	6	2	0	French Cabbage.....	dozen	0	0	0	0

## WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 7—13, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
7	Th	Stamford Show. Dundee International Show opens.	70.3	47.5	58.9	5 24	6 31	7 28	9 35	19	2 16	251						
8	F		69.4	48.0	58.7	5 26	6 29	7 44	10 58	20	2 87	252						
9	S	Dundee Show closes.	69.1	48.1	58.6	5 23	6 26	8 9	0a 23	21	2 57	253						
10	SUN	13 SUNDAY AFTER TRINITY.	69.7	45.5	57.6	5 29	6 24	8 46	1 48	22	3 18	254						
11	M	Oxford Show.	68.7	47.0	57.8	5 31	6 22	9 41	3 8	23	3 9	255						
12	Tu	Glasgow Show.	69.1	44.8	57.0	5 32	6 20	10 55	4 1	24	4 0	256						
13	W		68.4	45.7	57.0	5 34	6 17	morn.	4 42	25	4 21	257						

From observations taken near London during forty-three years, the average day temperature of the week is 69.8°; and its night temperature 46.6°.

## LILIUM AURATUM.



HE continued importation of this bulb is surprising. The sale of several thousands in one day by Mr. Stevens has for many years past been an ordinary occurrence. By this time no moderate-sized garden ought to lack them. But what is the fact? They are still unknown, except in the gardens of the few. Where, then, are the bulbs? Why, dead.

I have been induced to write a few lines on the subject from reading in a contemporary that at Cheshunt, where this Lily is cultivated largely, the bulbs are taken up every autumn to save them from the winter rains, which rot them. If this be the secret of success it is easily obtained; but most cultivators think that all Lilies are impatient of any disturbance at their roots.

When *L. auratum* was first imported the price was so high that no one dared venture the bulbs in the open ground. But they did not thrive in pots, and it is now held that potting is a mistake. I did once see a magnificent potted plant. It had been repotted year by year into larger sizes without the slightest disturbance of the ball, and was growing in a very large pot in a greenhouse with a north aspect, and threw up nearly sixty stems.

The recommendation now given is to plant in a peat bed among *Rhododendrons*, and leave the bulbs alone. But everybody does not live at Bagshot, and peat is to most a costly article.

The question then, which I propose rather than answer, is, What are gardeners to do whose stock of peat is limited? and we shall better approach the subject if we can discover what are the causes of the bulb dying-off when away from the *Rhododendrons*. I assume that it is carefully planted—that is, that a hole has been dug out filled with a mixture of peat, loam, sand, and stones (or broken bricks), and the bulb so placed as to have its top 6 inches below the surface. I like a little pure sand just round and below the bulb.

In the autumn of 1874 I bought a dozen of the finest imported bulbs, and dividing them into three parcels planted them out, after having cut away every speck of decay. The garden lies high and dry on gravel. All the bulbs came up well in the spring. Their final fate was as follows. No. 1, planted on an open sunny border, turned purple just before flowering, and every bulb was found rotten. No. 2 was in front of a south-east wall, but partially shaded by a row of espaliers before it. The spot was selected because *Lilium bulbiferum* thrives there remarkably well. Here *L. auratum* grew well, one bulb only perishing. This year the remainder grew strongly, but after showing flower all have died but one. No. 3 was in a Rose bed, the soil of which was made in great part of loam. The situation is exposed. There is shade from the Roses, but no great amount. Here in 1875 were capital flowers, and no loss. In 1876 still free growth, still larger flowers, but one plant full of flower buds turned purple, and is gone. All three clumps have had artificial

watering just the same as other plants which were near them. No. 3 had the advantage of the more copious supplies given to the Roses, with liquid manure besides.

It would seem from the above that, on dry soils at least, winter damp and cold do no injury, nor do spring frosts, for this spring was a trying one. If so, we are led to look to the sun and drought as the sources of our ill success. But it is difficult to imagine that the direct rays of the sun can penetrate 6 inches into the soil and there do harm, or is it the effect of the sun upon the foliage? If the sun be in any way the destroyer, the cure is easy enough—plant in the shade. But then comes the question whether in damp gardens the bulbs will stand the winter there. If the rays of the sun do no harm, and it is only a question of summer drought, then careful watering is the cure.

I hope this letter may induce others to give their experience, and perhaps it may meet the eye of some one who has seen this Lily in its native land, and can tell us what are its conditions in a wild state. It is a gorgeous plant, well worth some trouble; but to my taste *L. longiflorum*, *L. eximium*, and *L. speciosum rubrum* are more elegant and more delicately perfumed.—G. S.

[Our correspondent alludes to a matter of considerable importance, for *L. auratum* cannot be seen in all its beauty except when growing in the open ground. In the garden of Mr. McIntosh at Duneevan it grows in wild luxuriance, and the bulbs are not removed from the ground in winter. Last year a plant in that garden attained a height of 11 feet; and this year, although the summer has been so dry, the same bulb has thrown up a spike 10 feet 6 inches in height. In the same garden this year one clump, the offspring of three bulbs, has produced 170 flowers. The soil in which these *Liliums* thrive in such a remarkable manner is sandy loam having an admixture of peat, the subsoil being sand. They are growing among *Rhododendrons*, and are watered copiously. Scarcely any bulbs perish during the winter, and the plants are seldom injured by spring frosts. Partial shade and liberal supplies of water are regarded as the main elements of success in the case of these remarkable *Liliums*, and the experience of "G. S." confirms the importance of these requisites. We shall be glad to hear of the successes or failures of others in their attempts to establish *Lilium auratum* as a garden flower.—EDS.]

## GRAFTING VINES—PUTTING ON GRAPES.

HAVING had considerable difficulty in obtaining fruit from a large and luxuriant Black Hamburg Vine I carried out a suggestion which was some time ago made in your pages, and I have succeeded in placing on the hitherto profitless Vine some satisfactory bunches of Grapes. "Placing on" the bunches is a somewhat unusual term to use in reference to Vine culture, but it is literally true; for the Vine of itself showed no bunches for fruit, yet by artificial aid became the foster parent of an excellent crop, which was (in embryo) placed on during the spring of the same year. The Vine was an

old one, but apparently in robust health, for it grew vigorously, producing long-jointed wood, large leaves, long tendrils, but no fruit. It was pruned on the short-spur system, and everything that was possible was done to ripen the wood, but no fruit followed. The long-spur or extension system was then tried, and a few bunches were obtained from the young canes, but by no means a good crop. I then had recourse to the plan of "putting on" the bunches.

Short-jointed and well-matured wood from fruitful Vines was preserved by burying it an inch deep in the open garden. In the spring when the barren Vine commenced putting forth leaves the dormant yet fresh pieces were dug up and grafted on the old and then freely-growing stock. The grafts were for a time supported with "the bottle"—that is, until their union was complete and they received support from the stock. The grafts were 18 inches long, and from the centre of each a deep slice was cut 6 inches in length, starting at two eyes from the top. Corresponding slices were cut from the parent, some on the old rod and others on the laterals, which had been purposely left unpruned, and the cut parts were neatly placed together, and were secured by matting and protected with moss. The lower end of the grafts, which were about 8 inches in length, were inserted in bottles of water—common wine bottles—which were suspended from the roof. These bottles were kept filled with water for a considerable time. In due time the buds swelled and the young growth grew just as freely as if it had been a part of the Vine. Bunches were seen, and each shoot from the graft was stopped a leaf or two beyond the bunch. The growth of the "stock" Vine was also restricted, and during the same season good bunches of really fine Grapes were ripened on the Vine that had previously been barren for years.

Another noteworthy fact remains to be told. The short-jointed fruitful wood that was "put on" the Vine producing long-jointed unfruitful canes has in a measure retained its short-jointed and fruitful character, and for three years has produced satisfactory crops of Grapes, yet not quite equal to the crop which was produced during the season of grafting.

Perhaps the success attending this experiment may be worth recording. The operation is so easy of being performed that no one need hesitate to try it. A sharp knife, a steady hand, and a quick eye being the principal requisites in "effecting a junction," and subsequent attention to stopping the growths—on stock and graft—"keeping the bottles filled," and thinning the fruit will result in Grapes which have been "put on" the same season. Possibly others may have adopted the same plan; if so, I should be glad to hear if they have been equally successful.

I only regret that I did not try several varieties on the same Vine, for apart from the interest attached to their so growing, it would have been instructive to have noted what effects, if any, the stock had over the grafts. A vigorous parent is no doubt necessary to insure success.—A DOCTOR'S GARDENER.

### IXIAS: A PLEA FOR THEIR CULTURE.

It has often surprised me that so few people apparently seem to cultivate this very beautiful tribe of bulbs, and it is probably from the notion that there is some great difficulty in the way. This has perhaps been increased by the fact that when persons have been struck with astonishment at the beautiful groups of them exhibited by the Messrs. Hooper of Covent Garden, and have asked about them, they have been informed that they were grown in the Channel Islands, and have hence concluded that it is only in such favoured localities that their cultivation can be attempted. This is a mistake, at least as far as frame and pot culture are concerned; and it is in order to do away with this feeling and to encourage others that I venture to write a few words in favour of Ixias.

In my own little way I have hitherto attempted their culture only in pots; but knowing that Mr. Samuel Barlow of Slakehill House, Chedderton, near Manchester, was a most successful grower of them, I asked him for some information concerning them; and as his method differs but little from my own, except in the larger quantities in which he grows them, I give the notes with which he was kind enough to furnish me. "I grow my Ixias in a mixture of good turfy soils and one-fourth well-decayed cow dung. I also add a little rough sand and a sprinkling of finely powdered clay and marl containing plenty of lime, about one-tenth of each of these two, and all well mixed together. I grow them in large 15-inch pans 9 inches deep, and about eighty bulbs in each, and keep them

in a cool house or frame. The soil must be rich and fibrous, not too light. When the spikes begin to show for bloom I give weak liquid manure about every third or fourth day. I may say that if protected from frost they will bloom well out of doors."

I have not been able as yet to grow them in such quantities, but find that about half a dozen bulbs in a large 48-pot answer very well, and their elegant and graceful habit, together with their brilliancy and quaintness of bloom, makes them very effective objects; while all who are desirous of having pretty flowers for cut blooms cannot very well dispense with them. For light vases or the top of a March dinner-table stand they are most valuable.

With regard to sorts, I do not think there are many more than two dozen varieties. One never sees much more than that number in a catalogue; and although there are different names in the various lists, yet I am inclined to think this rather arises from the growers in Holland who supply the English dealers having them under different names. I add those which I have found effective and useful:—*Viridiflora*, a most quaint light-green-coloured flower with dark centre; long spike. *Aspasia*, white, purplish stripes; maroon centre. *Craeterioides*, bright scarlet. *Golden Drop*, yellow; dark eye. *Pallas*, cream; back of petals striped lilac. *Grand Duke*, straw colour. *Hector*, large purple. *Virgilius*, bright lemon; large, dark centre.

I have also grown in the same method the kindred bulbs of *Sparaxis* and *Babianas*, but I very much prefer the *Ixias* to them as being more light and graceful.—D., *Deal*.

### TREE PLANTING.

"Jock, when ye hae naething else to do, ye may be aye sticking in a tree; it will be growing, Jock, when ye're sleeping." When Sir Walter Scott put these words into the mouth of Dumbiedikes he made the old laird give advice of the utmost value to thousands as well as to "Jock." I am only afraid that in following it but too many have shown by their practice a too literal application of the "sticking-in" part. By all means plant, but let it be well done or not at all. "Well done" in the sense in which the words are now used is a most comprehensive term. It means putting the right tree in the right place; right for the future as well as the present; right as to soil and climate and as to the influence which it will exercise upon surrounding objects, be they other trees in the depth of a forest or the features of an open landscape; and, above all, right as to the preparation of the soil and the manner in which the roots are placed in it—all matters of the utmost moment, and to which due weight must be given in order to obtain successful results.

Take the Larch as an example of this. No doubt, as "A FORESTER" says, in his very sensible and practical remarks on this subject in page 160, "the liberal planting of Larches is profitable," but then it must be well done in every sense or a most pitiful failure will ensue. I have frequently seen Larch planted among underwood of one year's growth from the fall or time when the whole wood was cut, planted and left to take its chance till the next fall, a period of eight or ten years, when the underwood is cut clean away, leaving the Larch with their thin, bare, weakly stems exposed to the risk of being blown over by the next storm, which very often happens if the Larch clump be not a large one. It is clear, therefore, that if Larch is planted for timber among underwood it must have a certain space kept clear around it to admit of a stout robust growth; it will then soon beat the underwood, and by the time of the next fall be so sturdy as to withstand the roughest storms.

My object, however, is not so much to call attention to the management of the Larch as a timber tree, valuable though it undoubtedly is in that form, but rather to show how profitable it is, and how superior to many other trees upon a poor soil. The soil here is poor, thin, and light, and about a hundred acres of it is covered by a wood consisting principally of Oak and Beech irregularly dispersed a long distance apart, with an undergrowth of Oak, Beech, Hazel, Ash, and Chestnut, subjected to a periodical cutting for hop-poles, faggots, &c., every eight or ten years. Some of the strongest poles will in that time reach a height of 18 to 20 feet, but the majority will be not much more than half that height. Now, having heard from a reliable source that plantations of Larch had proved four or five times more profitable than the kinds of trees growing here, and that too in a similar soil, I was glad to find an opportunity of testing the matter, and the conclusion

I have arrived at is that my information was rather under than over-stated.

In January, 1873, I planted a quantity of Larch—sturdy plants 3 to 4 feet high, and costing 40s. a thousand—upon an open piece of meadow land which was trenched, or rather half trenched, for it was not stirred deeper than 14 inches. The trees were planted 4 feet apart with a *Pinus austriaca* at intervals of about 30 feet, the intention being to have the Larch as nurseries for the Pinuses for a time, but to cut them gradually away as they became large enough to make that a profitable process. The growth of the Larch has quite exceeded my expectations, the shortest plants being now upwards of 9 feet high, while the majority of them are considerably taller; two of the finest which I have measured to-day (August 25th) are both nearly 13 feet high, one of them having actually made a growth of 3 feet 10 inches last year and the other 3 feet 5 inches. They are now growing freely, but I do not think they will make an advance of 3 feet this year, the brown and yellow foliage affording clear evidence of suffering from drought. A very slight calculation will show that at this rate of progress a crop of Larch must prove very profitable, whatever might be the purpose for which it is eventually intended; if for poles the entire wood could be cleared at one time, or if for fencing and timber a gradual clearance of the weaker trees would give space to those intended for timber, and at the same time afford a handsome profit upon the work.

Whatever be the nature of the soil in which we desire to plant Larch, I would always advocate trenching, even deeper by several inches than I have gone, for it undoubtedly induces not only a rapid growth upwards but a proportionate stoutness of stem, both eminently desirable properties, whether the object in view is simply a free handsome growth or a profitable return for money invested in the work.—E. LUCKHURST.

### VIOLAS.—No. 2.

THE ennobling of Violas into Pansies is inevitable; the varieties of Viola raised hitherto only mark the stages through which a ragged flower must pass in its advancement to the standard marked out for it by the florist. *Viola cornuta* in its varieties *alba*, *Perfection*, *Enchantress*, *Magnificent*, *Mauve Queen*, *Blue Bell*, &c., all exhibit improvements on the original. In Lothair, though we have the habit of *V. cornuta*, the flowers are clearly those of a Pansy. *Viola lutea* progressively advanced to size in *V. lutea grandiflora* and major, when all at once a clear leap was made from a Viola to a Pansy in *Crown Jewel*; though the habit of the plants be dense and robust, only a step or two of further progress is needed and the Violas may be included in the category of bedding Pansies.

It is questionable, however, whether Violas having Pansy flowers are calculated to be as effective for bedding purposes as those with smaller and more numerous flowers; for it is as well to bear in mind that if the size of the flower be doubled we have but one flower in the place of two, and this, though it may not affect the plant singly, does materially lessen its effect in a mass intended to represent a decided hue of colour. I confess to a liking for a good verdant ground with the flowers nestling in distinct masses of decided colour above it. But in the larger improved flowers the foliage is more ample, the flower having superior form enhancing its individual beauty. The size and form of flowers give a greater fitness for effective display than numerous small ill-shaped flowers, and I hail with delight the improvement which is being effected in this family of plants.

Violas to bloom well over a lengthened period require a rich and moist soil, not necessarily wet, but one which will support the plants in dry weather. Even a light well-drained soil, rich in humus by liberal dressings of manure and leaf soil, will give stamina to plants in dry weather, enabling them to withstand its effects with better results than are produced from plants in a heavier-textured soil. Violas, it must be borne in mind, are not marsh plants; they grow on knolls, or slopes, or in ground free from stagnant water: therefore, though a moist soil be desirable, it should be well drained, moisture being afforded by supplies of water in a prolonged dry period. Ground for Violas ought to be trenched or stirred to a depth of 15 to 18 inches or so deep, as good soil admits. It is no use going down with a view of bringing to the surface matter which, before it can be available as food for plants, requires amelioration by atmospheric influence and an addition of organic substance. Trench the ground in autumn, putting in some partially decayed vegetable refuse not further from the surface than a

foot; and if the ground will not admit of being turned up deeper loosen the under strata, placing the manure upon it, throwing the surface rough for the winter. In spring dress the surface with leaf soil or well-decayed manure, and dig with a fork, mixing the manurial matter well in the soil.

Plants raised from seed grow more upright and do not branch nearly so well, and are not, for a time at least, so floriferous as are those from cuttings. Seedlings are not good the first year; it is not until the plants are cut down that dependance can be placed upon seedling plants for a full display: hence I do not advise the plants to be raised from seed except for the origination of improved varieties. Those, however, who wish to raise plants from seed may sow the seed the middle of August up to early September in light rich soil in a sheltered situation, pricking out the seedlings 3 inches apart in a sheltered spot in October, and planting them in March or early in April.

Cuttings give the best and most floriferous plants. Take the cuttings towards the end of September or first week in October. Choose for them a sheltered border—under a low wall or fence—and moderately rich soil, made fine and level, surfacing with a thin layer of sand. Let the cuttings be of the shoots which spring from the base of the plants, not using the exhausted flower shoots, and about 2½ to 3 inches long, pricking them in about half their length 2 inches apart, firming them well in, completing with a good watering. In a very bleak position the cuttings may be put-in in a frame and wintered in every respect like *Calceolarias*. Plant them out in spring before dry weather sets in, and in no case defer their planting until the usual time of bedding, for Violas and *Calceolarias* are not able to contend with drought if it comes upon them before their roots have obtained a good hold of the soil. Short duration of bloom and sudden collapse are due to late planting. If *Calceolarias* were planted where they are to bloom in April we should see less of their failure, and Violas so treated are enabled to withstand drought. Plants from cuttings made in early October will give an effective summer display, but not unfrequently Viola beds become seedy in autumn, as, indeed, all plants do that have been in a high state of perfection during the hot summer months. For a late or autumn bloom cuttings may be put-in in May or June, affording them shade. An amateur tells me (and I have seen) how to strike Violas and Pansies in summer—namely, put them in between the rows of early Potatoes where the cuttings are shaded from the sun, and lift the plants with balls the first showery weather after rooting, and plant them where they are required to bloom. For a spring display—or rather early summer, for it is not until May that Violas are in their beauty—the cuttings should be put in the second week in August, and be in their flowering quarters in October. An earlier bloom will be had by wintering the plants in frames, planting out during March. Potted and plunged in cocoa-nut refuse they stand well, and if in the open a top-dressing of the same material is of great assistance to the plants. Plants divided in October and then planted will afford a good early display.

Violas stand wet well, better perhaps than any other flowering bedding plants, and succeed in summer in high cold situations where more tender subjects do not have other than a starved appearance. Being moisture-loving plants they are benefited by a top-dressing in summer, for if mulching has the property of retaining heat in winter it possesses equally the power of retaining moisture in summer. Soak, therefore, Viola beds with water in dry weather before the soil becomes hard and cracked if heavy, or dusty if light, applying the water to the roots rather than overhead, and mulch with short manure, which will be hid by the foliage. Neater than manure and as good is cocoa-nut refuse, and if this is placed close up to the plants they will produce fresh shoots freely, which will root into the mulching.

To keep the plants in blooming order through the summer it is necessary to cut off the seed pods and to thin-out the old stems, thereby encouraging young growth; and this attended to before the plants are exhausted, frequently going over the beds, attending to them with water and weak liquid manure in dry weather, we shall find Violas continue blooming from early spring to late summer in as good a state of perfectiveness as most descriptions of flowering bedding plants. They have, like other plants, a season of bloom, and if flowering be continued beyond it fresh parts must replace the exhausted growths, just as young plants are needed to replace plants which are old and worn-out. *Royal Blue* is the finest blue Viola, and *Crown Jewel*, a clear pale yellow, surpasses any other of its colour.



There are fancies even in *Violas*. *Princess Teek* is pale mauve; *Lilacina*, bluish lilac, of fine form and substance; *Admiration*, deep blue violet, its eye rayed with purple, and large flowers, must be classed one of the finest; *Alpha*, bluish purple and yellow eye, large finely formed flowers; *Lothair*, indigo blue, its well-formed flowers having a slight dark blotch in the centre; *Purple Prince*, mulberry ground shaded purple, its yellow eye rayed with black and encircled with blue; and *Waverley*, violet shaded purple, yellow eye and white brow, combining size with good substance. These are a few of the best of the *Violas*, which as yet are more limited in colour than the *Pansies*.—G. ABBEY.

### FEATHERED HELPS IN GARDENS.

THE above heading occurs in the *Journal of Horticulture* for August 24th to an interesting article, with the signature attached of one from whose pen I am always glad to peruse the statements from time to time made on different subjects of natural history. I am sorry therefore to have to differ with "WILTSHIRE RECTOR" as regards bantams eating slugs, as I have tried my fowls with them over and over again, and found them an object of dislike; sea-gulls also refuse them as food, but both are fond of worms.

The sparrows of England and Ireland must be of a different race, as those birds in the green isle never look at caterpillars. I have gathered them and thrown them into a yard where sparrows frequented, and they left them untouched. Where I am living at present sparrows abound, and the caterpillars are a regular plague this year, the Cabbages in my own garden and those of my neighbours being destroyed completely, and no sparrow interfering. I have never seen the cuckoo in a garden, or heard of one eating caterpillars.

I should therefore be glad to have this subject ventilated, and a bird discovered which would rid us of these plagues—slugs and caterpillars. Ducks are most useful. I have hardly a slug in my present garden, and I attribute it to the number of ducks I have; but you cannot grow Strawberries and ducks.—TYRONE INCUMBENT.

### USEFUL APPLES.

No arguments are needed to show the value of early Apples, and I am glad to note that your correspondent, "A NORTHERN GARDENER," has advocated the free planting of sorts of established value. He has confined his remarks to dessert kinds, and has mentioned a trio of undoubted value, omitting, however, in my opinion, other kinds at least equally good. It is not my intention to supplement the short list which he has given by enumerating other varieties of dessert Apples, but I would rather remark on the value and importance of another type of Apples—I mean Apples for culinary purposes which are early, profitable, and good.

During the last few years an unusually large number of Apple trees have been planted. This is the result partly of noticing that even in fruitful years the supply of Apples has not been too great for the demand, and partly the encouragement that has been given to planters by the supply of trees which the nurserymen have provided of a dwarf-growing early-bearing character by their having been grafted on precocious stocks.

It is only natural that a general hesitancy should exist in the minds of many who have land at their disposal, and especially in the case of those holding it under yearly tenancies, as to planting fruit trees which require many years to bring them into a profitable fruit-bearing state. It is not to be expected that people will occupy their land with crops from which they cannot derive, not only profit, but early profit. If they invest their money in fruit trees they require good and speedy interest in the return of fruit. In the old-fashioned orchard trees, and especially in some sorts of them, it is only by long and dreary waiting that large crops can be gathered and the money that has been invested be "turned over again." It is probable that when such trees do arrive at a bearing state that they are the most profitable of all trees; but we live in an express-train-and-telegraph age, when "time" is emphatically regarded as "money," and few, therefore, care to wait a generation for fruit, and it is only here and there one who studies posterity. But when trees were produced laden with Apples at three years from the graft undoubtedly a great impetus was given to fruit-tree planting, and many planted freely with bright visions of fortune urging them on, and pleasant

dreams of prosperity "whiling away the time" of waiting for the crops.

In not a few cases these profitable anticipations have been realised, but in many more, and perhaps the majority, the hoped-for reward has ended in disappointment. This has followed not so much through selecting bad sorts as by including in a given list too many varieties. It is generally the case when a person becomes an enthusiast in fruit-growing that he cannot rest until he has all the kinds which the authorities have invested with a reputation. When the grower grows fruit for pleasure primarily, cash profits being a secondary matter, nothing can be urged against that plan of procedure; but when profit becomes of paramount moment, and the tastes of others as purchasers of his fruit have to be considered, then no greater error can be made than in growing all the sorts of Apples to which are attached "good characters." In the cases of failures occurring blame is almost invariably thrown by the planter on the dealer who supplied the trees, or at least to some "person or persons unknown" who provided the estimates of their merits. In reality, however, the planter has only himself to blame. All the sorts that are recommended are good for some purpose, but the great question for each individual to ask himself and determine is, "Which varieties are best suited for my purpose?" That is a question of the utmost importance, and cannot be decided without much consideration, probably some advice, and especially extensive and attentive personal observation.

In contemplating the extensive planting of fruit trees two distinct questions are presented at the outset. Firstly, Am I planting for myself and my family—in fact for home use? and secondly, Am I planting for others—i.e., with the object of selling the fruit? To the first question I do not at present think it necessary to give any consideration, but propose to discuss the matter of Apple cultivation in its useful and profitable phases.

After some experience in fruit-growing, embracing both successes and failures, I have become convinced that it is not only advisable to have trees of a nature that commence bearing early, but the sorts must also be early ripeners. I am considering now the best way of "turning money quickly" by the cultivation of Apples. It so happens that the culinary Apples which are the first ready for use are kinds which are early and constant bearers. Late Apples are, weight for weight, more valuable than early Apples, but the trees of the latter do not arrive at a bearing state so soon as the former, and in the case of late sorts a margin must always be allowed for waste, and there is also some expense involved in preparations for keeping them. As to the relative period at which early and late Apples become profitable I will for comparison take the best early and best late culinary Apples, and note their characteristics. I will consider Lord Suffield the best early Apple, and Dumelew's Seedling the best late Apple. Both are excellent in their season, and are free bearers. I do not say that at the end of half a century that a hundred trees of the former would be as profitable as the same number of trees of the latter, but I do assert that trees of Lord Suffield will pay for themselves, and the ground which they are growing upon, before trees of Dumelew's Seedling produce a lucrative crop.

On the ground of securing an early return upon outlay I am bound to advocate the adoption of early sorts. These are ready at a time when the public are "hungering" for them; and if at times they must be sold cheaply, the crops are generally so large as to render them profitable. If we glance at a large orchard of Apples, or if we look down the long lines of trees in a large nursery, we generally find trees of the early sorts the most heavily laden with fruit. In the matter of young trees that may be said to be invariably the case. In seeking for early return, therefore, we must look to early sorts, sorts which are in a marketable state at the earliest possible moment, and which are sufficiently productive as to—even when Apples are cheap—render their cultivation profitable.

Probably the Apple which for a number of years has been the most useful and profitable in cottagers' gardens—and there profit is estimated at its real worth—is the Keswick Codlin. This favourite old Apple has done good service, and must not be lightly set aside—indeed, for orchard trees it is probably the best of all early culinary Apples; but for early fruiting dwarf-growing bush or pyramid trees it is superseded by Lord Suffield. This last-named Apple for early use is exceedingly valuable, and fruit of a saleable size is ready sooner than that of any other kind that I am acquainted with. It is also a prodigious bearer; it is, in fact, a large edition of Keswick

Codlin, possessing all the good qualities of that variety from which it was probably a sport. It is not quite suited for standard trees owing to the liability of the large fruits being blown off by the winds; but for dwarf trees on the Paradise stock it is one of the most valuable and useful of all culinary Apples; it should be planted freely by all coveting early fruit and a quick return on the outlay invested in trees.

I have for some years grown another Apple, which is superior to the Keswick Codlin, which is called Domino. It is larger than the Keswick Codlin, but not so large as Lord Suffield, but is of a deeper green than either, and is a prodigious bearer. It may only be a local Apple, but is largely grown in the midland counties, and is there known as one of the best. It is rapidly rising in public estimation, and may be planted with confidence of yielding an early and profitable return of fruit.

I consider that I have now mentioned the very best of the most useful of very early Apples, unless I add to them Duchess of Oldenburgh. This Apple I am informed is of Russian origin. It is not quite so early as the sorts named, but it is a valuable successor of them. The tree is an early and great bearer, and the quality of the fruit is of a high order. It is also a very "taking" Apple in the markets by its rich stripes and attractive bloom. Another property it possesses which was pointed out to me by my lamented friend the late Mr. J. R. Pearson, is that it does not show its bruises. In speaking favourably to Mr. Pearson of Cellini he added, "Yes, Cellini is a good bearer and useful at home, but who would grow Cellini for market that knew the value of the Duchess of Oldenburgh?" Duchess of Oldenburgh is no doubt one of the best travelling Apples, and when we add to that its earliness, its productiveness and excellence, we have a combination of qualities rendering it valuable and a desirable sort for planting. The above Apples are tolerably well known, so that it is not necessary to submit a sketch of them; indeed, the best of them are "gathered and gone," and I have not a good sample of any of them left.

I will now advance a step further in the season of ripening, and draw attention to a valuable Apple which is not sufficiently known and cultivated, I mean the Ecklinville Seedling (fig. 26). I submit a section of this Apple, which will sufficiently show its size and form, and I will only add that it is handsome and excellent. The tree is an early and great bearer, and the fruit is in use from October to the end of the year. It is a very hardy Apple, and is suitable for standards on the Crab stock and for bushes on the Paradise stock. On the latter it bears when the trees are in quite a small state, and from my experience of it I believe it to be a variety worthy of extensive cultivation. I am informed that it was raised in Scotland, and that it is extensively grown in North Britain, and I know that it flourishes well in the midland counties and the south of England.—A MIDLAND FRUIT-GROWER.

### "THE NINETY AND NINE."

THE number is venerable, but I cannot make out ninety and nine of Hybrid Perpetuals which are perfect, so I must be forgiven if I intrude upon other classes to make up the number—the eclectic number! I will begin with a few old friends, some of which I have had from the year 1852 down to the present time; and how nobly have those old friends withstood the "tyrannic sway of time!" and how bravely have they met the most tyrannic winter, spring, and torrid summer! I will begin with our oldest Rose—one that seldom dies, and never will need an epitaph.

I do not place the sorts in the order of merit. Baronne

Prévost (Laffay), the oldest. William Griffiths. Gloire de Dijon. La Ville de St. Denis, not yet beaten. Madame Knorr, one of the sweetest and one of the most beautiful in bud. Caroline de Sansal, the hardiest of all the light Roses. Souvenir de la Malmaison, the finest of all the light Roses, but best as an autumnal Rose. Souvenir de la Reine d'Angleterre, a fine autumnal bloomer. Madame Louise Carique, the best lofty red pole Rose. When my friends, Mr. Sturt (now Lord Arlington) and Earl Walden, came here three years ago they greatly admired this Rose, planted like a leech bite (threes) between Cedars and Conifers and Deodars. "Ah!" said they, "that is the prettiest sight I ever saw!" Forgive me if I say that garden ornamentation is too much neglected. Anna Alexieff, a fine masser. Duchesse de Cambacères, rough in aspect, but excellent early and late. She throws her corollaries over her main blooms. Comte de Nanteuil. Duchesse d'Orléans, wonderfully fine. Madame Boll, extra fine, and beautifully scented. Acidalie, very fine. Baron Gonella, distinct. Sir Joseph Paxton, one of the finest of the corymbed Roses: add Triomphe de Rennes and you have the two best as corymbed Roses. Triomphe de Paris, very fine. Monsieur de Montigny, extra. Lafontaine, extra. Maréchal Vaillant, extra. Alexandrine Bachmeteff, after twenty years' wear she

is 8 feet high. The above are my oldest Roses, and I cannot but venerate them as outliving so many choice Roses and defying "Time's tyrannic sway."

I have hitherto mentioned some of our oldest Roses; I now mention some of more recent origin. Abel Grand, Achille Gonod, Baronne Adolphe de Rothschild, Felix Genaro, Baron Chaurand, this and Van Houtte are the finest-scented of the Hybrid Perpetuals. Black Prince, Charles Lefebvre, Claude Levet, Comtesse de Chabillant, Devienne-Lamy, Dr. Andry, Duc de Cazes, Duchesse de Caylus, Duke of Edinburgh, the most brilliant of all Roses. Edouard Morren, magnificent.

Elie Morel, a pale Baronne Prévost. Triomphe d'Alençon, a red Baronne Prévost. Lord Clyde. Lord Macaulay, most beautiful, but not a strong grower. Louis Van Houtte (Lacharme). I have the other. This and Maréchal Niel are the two finest autumnals, but somewhat delicate. Madame Alice Dureau, one of the best of the La Reine family; the most beautiful but the most delicate of the family is Louise Peyronny, alias Lælia. It is still the most beautiful in the line of rose colour. Madame C. Crapelet, Madame C. Wood, Madame C. Joigneaux, one of the best in the Rose kingdom, and finely scented. Mlle. Emile Boyan, a Perpetual Madeline. Lady Suffield, a real beauty. Madame George Schwartz, Madame Julie Daran, Baroness de Rothschild, Madame Creyton, Duke of Wellington, Madame Lacharme, small but most lovely. Mrs. Rivers, Madame Vidot, these two are still the finest in the light line. Madame Victor Verdier, Sénateur Vaisse, Mlle. Annie Wood, not autumnal. Mlle. Marie Rady, A1. Mlle. Thérèse Levet. Marguerite de St. Amand, a wonderfully good Rose. Marquise de Castellane, fine. Countess of Oxford, extra. Etienne Levet, extra fine, but scentless. Maurice Bernardin, one of the best. Paul Neron, large and fine. Pierre Notting, A1. Pierre Seletzski, one of the best novelties. Vicomtesse de Vezins, a fine grower, hardy, and excellent. Monsieur Woolfield, Prince Camille de Rohan, Prince de Portia, Princess Mary of Cambridge, Dr. Jamain, most beautiful. Souvenir de W. Wood, most beautiful. Monsieur Boncenne, Solfaterre, for a wall. Vicomte Vigier, Thyra Hammerick, Maxime de la Rocheterie, Gloire de Ducher, Baronne de Maynard, Leopold Premier, Dr. Andry, Madame Chirard, Triomphe de Rennes, Céline Forestier, Solfaterre, for wall only. Rêve d'Or, for wall, but must not be cut back.

Teas.—Devoniensis, Souvenir d'Elise Vardon, Madame

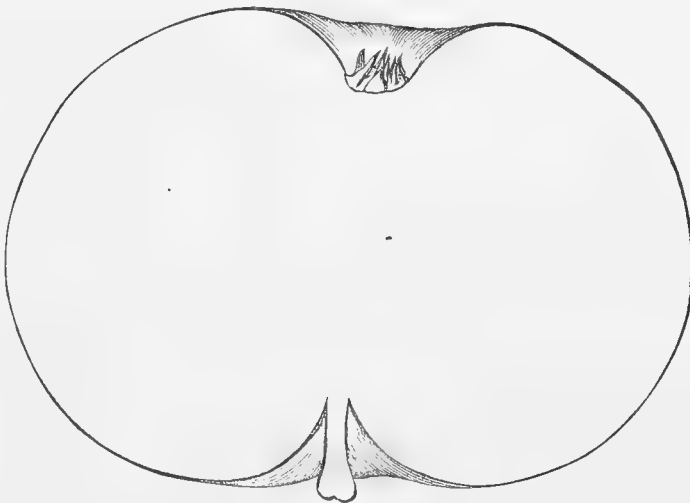


Fig. 26.—Ecklinville Seedling.

Willermoz, Souvenir d'un Ami, Adam, Duchess of Edinburgh, apparently a China Rose; Sombreuil, a wonderfully hardy Rose—a China Rose, I think; and Madame Margottin, a citron yellow.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

### VINES LOSING THEIR LEAVES PREMATURELY.

THREE years ago I planted a house of young Vines, which made satisfactory growth the first season, and the second year the canes were exceedingly strong, leading me to expect correspondingly large bunches; but in August, 1875, they cast their main leaves, and the bunches this year while good are not so large as I anticipated. This year the wood is very strong and the foliage again shows signs of dropping. What is the cause? "Dryness at the root," says one visitor, but I know that cannot be the case; while another suggests that the "glass may be at fault;" and a third a "dry atmosphere" is the cause of the grievance. Now I do not concur in any of these solutions of the difficulty, but I attribute the defoliation to the innate vigour of the Vines, and that the rapid swelling of the canes is the cause of the leaves being pushed off. I am led to this conclusion by the fact that the leaves on the moderate-sized canes are green and healthy. I shall be glad to have the opinions of other growers on this matter, as I fear there is a tendency to err in inducing an excessive grossness of growth in the anxiety to obtain gigantic bunches. I have observed in the case of Vines of this character that when the bunches have been of considerable size the berries have not been correspondingly large and well-finished. My experience leads me to prefer moderately strong wood which retains the foliage until late in the autumn, when bold eyes are perfected and good Grapes follow. It is seldom that well-cultivated Vines in pots cast their foliage so soon as the stronger canes, the roots producing which have the unrestricted freedom of a rich border.—W. J. B.

[The views of our correspondent are precisely in accord with those of Mr. David Thomson, who, replying to the question, "Why do young vigorous Vines frequently lose their main leaves prematurely?" writes as follows in "The Gardener:"]

"This is an affection, or rather misfortune, which in the case of young growing Vines perplexes and, to a certain extent, alarms some growers, causing them to be apprehensive that some disease has overtaken them. The occurrence is most frequent in the second year's growth of young vigorous Vines; the more rapid and vigorous their growth the more leaves they lose in this way. We were long puzzled as to the cause of young Vines suddenly, and in the very zenith of their growth, losing so many leaves, but are quite satisfied as to the cause, which is purely mechanical. When such young Vines are stopped, either before they get or just as they reach to the top of the house, they then begin to thicken with great rapidity, even to the rending of their bark in many cases, and their circumference at the nodes, or the place where the base of the large leaves is fixed to the stem, increases more rapidly than the base of the leaf grows, and so the union of the leaf with the stem is rent or ruptured, the sap into the leaf checked, and the power of the sun acting on the leaf causes it to collapse and wither, and it soon loses its hold of the stem altogether and falls off, while the leaves on the lateral growth which proceeds from their axil grow on fresh and green. This mechanical occurrence can be easily detected with a magnifier, and is most conspicuous, of course, during bright weather. The Vine no doubt suffers slightly from the loss, but not materially."]

**GODETIA LADY ALBEMARLE.**—When looking over Messrs. Daniels Brothers' seed farm at Norwich I was highly pleased by seeing their new *Godetia Lady Albemarle*, it was such a glorious mass of rich shining colour. Since then it has been exhibited in London, and has received a first-class certificate from the Royal Horticultural Society; but to see a few plants or a boxful of it unexposed to the sun gives little idea of its splendour. Though it remains open night and day, to form any notion of its effect it should be seen in a mass with the sun shining on its large glossy flowers, few of which are less than 3 inches across, and entirely different in effect to anything usually seen in the open garden. The flowers are not unlike those of *Dipladenia crassinoda*, with the rich crimson shade of the newer varieties, but far exceeding these in the richest silky appearance, and of so beautiful a colour, too, at a time when many of the best annuals were burnt up with drought.

Not one annual or bedding plant can compare with it in producing such a mass of dwarf, dense, compact plants, the foliage being entirely covered with flowers.—THOS. STAFFORD.

### THE "SLEEP OF PLANTS" AS AN AGENT IN SELF-FERTILISATION.

At a recent meeting at the Academy of Natural Sciences of Philadelphia Mr. Thomas Meehan said that what is popularly known as the "sleep of plants," the closing of some kinds of flowers at nightfall, though a matter within common observation, had not, so far as he was aware, been made a subject of physiological investigation with the view of ascertaining the value, if any, of this kind of motion in the economy of plant life. He had recently discovered that by means of this peculiar motion the common *Claytonia virginica* and some Buttercups were fertilised by their own pollen. The fertilisation of these plants had been somewhat of a mystery to him, as, in view of some prevailing theories of cross-fertilisation by insect agency, these plants ought not to be self-fertilisers, but from repeated observation he was satisfied that no insects had visited plants that had yet seeded abundantly. Watching the process of fertilisation in *Claytonia*, he found the stamens on expanding fell back on the petals expanded during daylight. At night, when the flower closed, the petals drew the anthers up in close contact with the pistils. Cross-fertilisation could be accomplished by insects if they visited the flower, but they did not; and actual fertilisation only occurred in this way. In many cases, especially in the advance of the season, the stamens recurve so much as to be in a measure doubled-up by the nocturnal motion of the petals. The anthers were not drawn into contact with the stigmas in these cases, and the flowers were barren as the result.

In the *Ranunculus bulbosus*, our common Buttercup, in the evening following the first day's expansion of the young flower, the immature anthers and the young stigmas would be found covered with pollen grains. The inference would generally be that this had been carried there by insects. But as he had been especially on the look-out for insects as visitors to the Buttercup, and feeling sure that none of any consequence had been to them, he examined these flowers carefully, and found that on the first expansion of the flower a single outer series of stamens burst their anther cells simultaneously with the expansion of the flower, and, by contracting the cell walls, ejected the pollen to the smooth petals, from which it easily fell to the immature anthers and stigmas when the flower closed for the night.

Knowing that another species of Buttercup, the *Ranunculus abortivus*, had fixed spreading petals which did not close at night, and which, though with comparatively large nectariferous glands full of a liquid secretion, was wholly neglected by insects, and yet had every flower seeding profusely, he was anxious to find, in view of his other discoveries, how these were fertilised. Visiting a wood after twilight to ascertain if any nocturnal insects visited them, he found that though the petals did not close at sundown, the slender pedicels drooped, inverting the flower, and in this way the pollen found its way from the petals to the stigmas without any difficulty whatever.

Plants, of course, had peculiar functions to perform, and there were pre-ordained plans and special arrangements through which these functions are exercised. But the workings of plant life are so complicated that, though we see certain results follow certain movements, we are not always sure that we perceive the great and deeper object aimed at in the order of Nature: hence arose the differences of opinion prevailing in regard to the object of cross-fertilisation. Some plants had arrangements which seemed to preclude the possibility of self-fertilisation, and the assumption followed that Nature abhorred close breeding in plants, and specially designed such structures to secure the plant against it. He believed that Nature had a deeper purpose as yet unknown, and chiefly because of such instances as he had given, where Nature could not abhor close breeding when the result of the "sleep of plants" was most perfect in securing self-fertilisation.

### DIOSPYROS KAKI.

I CAN answer some of "G. S.'s" questions as to *Diospyros Kaki* (page 193). We have a small compact plant in the orchard house with ten fruit. The fruit was exhibited before the Royal Horticultural Society's Fruit Committee from Sir W. Hutt's garden, but I do not remember having tasted it.

The plant is pretty even with its green fruit. When this is ripe and has the orange colour it should be very ornamental. A friend who knew the fruit well in Japan told me that it is considered good there. He cautioned me against allowing an overcrop, as the fruit in that case falls. I therefore thinned our plant.—GEORGE F. WILSON.

[The fruit received is 2 inches in diameter, and somewhat resembles an unripe Tomato, being green and slightly ribbed, but is more solid than a Tomato. When ripe it must be highly ornamental. We shall be glad to hear further from Mr. Wilson when he has proved the quality of the fruit.—Eps.]

### THE DOVER FLOWER SHOW.

"WHAT! you here!" was the exclamation of one of "those most potent, grave, and reverend seigneurs" who rule the destinies of our Journal when I met him in the Priory grounds, where the Committee of the Dover Horticultural Society had arranged their Show. The next word was more *sotto voce*—"I look to you, then, to tell us something about it." What could I do but obey? and hence this short report.

There was something pleasant and picturesque in the appearance of the grounds and the old refectory where the Show was held; and although the day had been unpromising the rain held off and bright sunshine added its charms to the scene. The plants were arranged in the refectory, where also the fruit and table decorations were displayed, and a much worse place could not possibly be for showing off the beauty of the exhibits. The light was of the faintest character, and the gloomy aspect of the walls added nothing certainly to their appearance. Nor were the plants of any great moment. At this season of the year it is a difficulty to get together stove and greenhouse plants; and as there are no persons in the neighbourhood who go in for exhibiting, those shown were simply such as may be found in any gentleman's garden of any pretensions—very unlike what one sees at such shows as Taunton, Spalding, &c. The gardeners of Sir Henry Tufton, Sir Walter James, S. Ashley Dodd, Esq., and others exhibited plants of fair average quality but in no way remarkable. In this part of the Exhibition the greatest interest was excited by the table decorations, &c., for which there was a spirited competition. The classes were for a stand of wild flowers and grasses, dinner-table stand of fruit and flowers, and basket or vase for the dining-room. The first prize in the class for wild flowers was adjudged to Miss Tompkin, Buckland Vicarage, for an exceedingly pretty and well-arranged stand. The dinner-table stands were for fruit and flowers—an unsuitable arrangement which has been long since discarded in most places. It gives a lumpishness to the stand which utterly destroys its effect; and, moreover, the fruit is placed inappropriately. If it is not to be eaten its place would be better supplied with flowers; and if it is, the appearance of the stand would be destroyed by its removal. The first prize was awarded to Mrs. R. H. Jones: it was far too full, and it would have been utterly impossible for anyone to have seen those opposite to them through its dense groups. Miss Kingsford was second; and the same remark applies, for the stand had a number of cornucopias which were too full of flowers. The third-prize had a bunch of Grapes suspended in a tripod—very inelegant. In the class for drawing-room baskets or vases some really pretty groups were put up, the first prize being adjudged to an exceedingly well-arranged group by Miss Kingsford of Woodside. Unfortunately another competitor, whose stand was of equal merit, was disqualified owing to the exhibitor misunderstanding the schedule and placing some trays round it.

As usual in these autumnal shows the chief points of attraction are the cut flowers, and of these there was a very good display. The Gladioli were unhappily placed. During the early part of the afternoon the sun shone through the canvas of the tent, completely killing the colour of some of the more delicately coloured flowers. They were exhibited by Mr. Banks of Shobden, our largest amateur grower; Dr. Scott of Sandcombe, Messrs. Bunyard & Son of Ashford, and "D., Deal." In addition to the very flattering notice of "G." in last week I have a word to say on a matter connected with them of which I am not a little proud, and have written a separate notice detailing it. But few of this year were exhibited. Hecla was shown well, and there were two or three fine blooms of Le Vesuve. Giganteus was good in Mr. Banks's stand, and Ginevra and Murillo were excellent, so also was Leda. Mr. Banks exhibited a number of good seedlings, amongst them a remarkably fine white flower of great size and substance. The long array of stands occupied a considerable space, and greatly attracted the attention of visitors.

The cool weather of the last ten days had materially assisted the Roses, which were shown in very fair condition for this season of the year, Messrs. Bunyard & Son exhibiting a very good box of twenty-six. Asters were not, as might have been expected, as good as usual. Dahlias were but poorly represented, but there were some fine boxes of cut flowers of Geraniums.

The dry weather had told against vegetables, as might have

been supposed, and really the wonder was that Carrots and Onions could have been exhibited in such condition as they were. It was in the class for cottagers that the effects of the season were especially felt, as they, of course, have not the means and appliances for combating the effects of a bad season that there are in large gardens.

Knowing as I do how little hold horticulture has in East Kent I can safely say that the Exhibition was creditable to all who were engaged in organising it, and a more efficient and courteous body of officials it would be difficult to find.—D., Deal.

### THE DEVON AND EXETER AUTUMN SHOW.

THE Exhibition held at Northnhay on the 1st inst. was not large, yet, in some points, noteworthy. The Committee were unable to offer large prizes for nurserymen, so the grand exhibition of stove and greenhouse plants, which have been one of the great attractions of former shows, were conspicuous by their absence; but notwithstanding a small tent was filled with some fine specimens from the glass houses of Messrs. Lacombe and Pince and Mr. H. Sclater. Dr. Woodman, the fortunate owner of the former establishment, very kindly sent some of his finest plants. His collection of Allamandas was fine, and he showed a grand plant of *Rondeletia speciosa* major. His *Ixoras* were also fine specimens, but his *Crotons* were simply wonderful, particularly *Croton variegatum*, which I believe is considered the finest plant in England. One Fern electrified me; it was *Davallia Mooreana*, and this I was assured by one who ought to know is considered the finest specimen in the world.

As it happened the tent set apart for these exhibits was far too small, whilst the one erected for table decorations was exactly *vice versa*. Very few entered for these good prizes, and indeed for the amateurs' class for three vases of fruit and flowers only one lady put in an appearance. The Judges had a very difficult task to decide on the other exhibits in this section. These were uncommonly good, particularly one put up by Sir T. Acland's gardener. He was placed second, but he lost the first prize by having his centre vase considerably lower than the two others. Here explained afterwards that he was unable to procure a taller one, which was a great pity, as the centre vase was the best I have seen for a long time. The base consisted of *Bougainvilleas*, Ferns, grasses, and fruit, with a lovely bloom of *Lælia purpurata*. Up the stem of the glass a climbing plant was twined, and the dish itself contained a Pine Apple, which was surrounded with blooms of *Eucharis amazonica* and Maidenhair Ferns. In one of the other vases he had the finest bloom of *Souvenir de Malmaison* Rose which I have ever seen.

The feature of the Show, however, was the stand of Gladioli staged by Messrs. Kelway of Langport. The perfection to which this flower has attained is simply wonderful, and every year fresh beauties are produced. Three first-class certificates were awarded to seedlings. One named Dr. Woodman is a splendid variety, the colour being a rich salmon, flaked with pink and lake; the petals being of enormous size. Another, named Earl of Mount Edgumbe, is rose colour and flaked with white; while the third, which excited the admiration of everyone, is of the richest creamy white, with a dash of violet in it; the petals were flaked, or rather pencilled, with faint lines of pink or lake. This Gladiolus was named after a friend of mine, who has had a Rose named after him, and is described as being of a globular form and of a bright rosy pink complexion. Some of the most noteworthy of the other Gladioli were Adolphe Brogniart, W. Thornton West, pink and white; Lady Bridport, flesh colour, flaked with rose; Libo, ecclesiastical red; Henon, Marian, W. Cotton, and Coutha.

The show of Dahlias, Roses, and Hollyhocks was small, but one or two very fine blooms were to be found in Mr. Beachey's stand of Roses; notably *Souvenir d'Elise*, which was one of the finest I have seen this year.—WYLD SAVAGE.

### CHAPTERS ON INSECTS FOR GARDENERS.

#### No. 11.

THERE has been some joking with regard to the speculations of certain philosophers, who have maintained that they could greatly improve upon Nature had they the opportunity. Thus, could they re-adjust matters, they think it would be much better that Pumpkins and Melons should grow upon large trees, and Nuts or Apples upon low plants only, which would harmonise with their notions of æsthetic fitness. Some horticulturists may possibly be inclined to theorise rather in the same direction, and an illustration is afforded by the economy of the aphid tribe. Few are now ignorant of the fact that these insects have an excessive power of multiplication, since the females in a mode that ought to be highly agreeable to the advocates of women's rights, who are apt to seek arguments and illustrations from all sorts of sources, produce generation after generation of "fat and fair" aphides with sur-



prising rapidity in the summer season, utterly contemning the absence of the masculines of the race, a small array of which appear towards the end of autumn. Without these, however, it is assumed the deposition of eggs would not occur, and it is in the egg state that the bulk of the aphid families pass through the dreary season, though a few rather tough long-lived individuals struggle on from autumn to spring in sheltered spots if the gardeners will leave them alone. Well, not to be prolix, had we been asked to arrange the details of entomological life, it is possible we should have decided that aphides had better not be quite so prolific, and we might have transferred this capacity of breeding to some species that are beautiful and not injurious. But we may as well reconcile our minds to matters as they are, and perhaps after all there is some sense in the consolation offered by one naturalist, who asserts that many of these seeming pests serve to indicate plants that are weakly, or which require looking after. It may be allowable here to put emphasis on a remark which is not original, that in destroying aphides a random proceeding may even be productive of more harm than good. I will not say anything against syringing and fumigating, though these kill frequently both the aphides and the parasites that prey upon them; but I will give an instance in the case of hand-picking. In a Hop plantation this summer, on some of the lower leaves of the bine there were numerous aphides, and thickly interspersed among these the eggs of one or more species of *Coccinella*. To have removed the leaves indiscriminately and burned them, as many persons would have done in such a case if they did anything, would have been to destroy friends with foes, and it was thought better even at some outlay of labour, to go from leaf to leaf crushing the aphides but leaving uninjured the eggs of their devourers.

Now, the aphides which appear so numerously both on cultivated and uncultivated plants, scarcely a species being entirely free from these pests, may be at once separated, if not on strictly scientific principles yet very naturally, into two great divisions. To the first belong the aphides that feed exposed or only concealed by the bodies of their relatives (for it is observable that there is sometimes a double layer of these insects); to the second belong those that are partly or entirely hidden from view, either by their own exudations or by their habit of contorting the leaves and stems of plants, of burrowing in their roots, or in some way causing an unnatural growth. These mischief-workers in secret are most annoying to the gardener, for they necessarily escape various bird and insect enemies. Rain does not materially affect them, and their ravages are often unobserved until it is too late. It is amusing to notice, however, the diligent manner in which the ants will hunt-up the hidden aphides, often thereby intimating to the observer the fact of the presence of these destroyers of plant vitality. It has been suggested, though it is hardly capable of proof, that the aphides which by their operations so greatly disfigure some plants and shrubs, or even trees, must in some way poison or injuriously affect the species they frequent, otherwise the results would not be as we find them. Among the gall-producing insects of the Hymenopterous order, it is certain there are some that by their punctures set up an unhealthy action, ending in morbid growths. But with the aphides it is more likely that all the evil they do arises from the exhaustion they cause by their rapid suction of the sap; perhaps the immense number of small punctures a party of them make may cause a sort of irritative action, leading to the odd twists and contortions of aphid-haunted shoots. The most singular locality for aphides, to my thinking, is within the roots of plants, where swarms of them are now and then discovered. Possibly they may be more plentiful in these situations than we should imagine were they always identified, but few persons would expect to discover aphides in roots: hence, from their small size, they are overlooked. We might ask several questions about these not easily answered, and wonder if they have winged representatives, or if they perform migrations like the rest of the brethren, or if they first became feeders upon roots, because their ancestors were carried under ground and kept prisoners in ant hills, for it is the habit of ants, as is well known, to make captives of their aphid favourites, their "milch kine," as the aphides have been facetiously called. Though it is almost as odd that aphides should cluster in the interior of an Apple as in a root or bulb, for Mr. Newman records the discovery of that fact as far back as 1835. "I have," he says, "cut open Codlin after Codlin and found the pips garrisoned with them; not one lone aphid, but a whole troop of all sizes. When I let in the daylight there was a consider-

able sprawling and waving of legs, and no small alarm in the hive, but by degrees they got used to light and fresh air, and were quite still. I tried to tickle them with a straw in order again to watch their movements, when, lo and behold, they were all dead—gathered to their fathers; gone to the tomb of all the Capulets! Some had heaved anchor and dropped from the pip; others, fixed more firmly, had died at their posts, and, tucking their legs together under them, hung by their beaks." 'Twas an extraordinary circumstance that they should die on contact with the air, indicating clearly that they could never have worked their way from the outer world into the Apple; and as the point has not been made out by research we can only construct a theory on it, assuming that the eggs must be deposited outside the Apple while it is yet juvenile, and that the young aphides burrow in. This would show a different habit to that prevalent amongst the majority, where, as I have noted, eggs are only laid in the winter.

If we "collar" the first aphid we catch upon our coat-sleeve, or pick off one off our Geraniums, and subject it to a slight examination (should it be a tolerably plump one we shall not require a magnifier to help us), we perceive that the oval body is supported by six slender legs, and at the extremity of the body project two short knobs, which are tube-like. The insect tucks its head under, so that we do not readily see the proboscis or sucking apparatus, though the long antennæ which adorn the head are visible enough, and occasionally the eyes shine out when the general colour is pale. Should the aphid be in the winged state the difference in size between the fore wings and the hind wings is very perceptible; they are also held perpendicularly, not sloping over, as in the *Psyllidæ*. Ordinarily the motion of a crawling aphid is but tardy, though some species display more activity than others. As to colour—well, there is a great variety in this respect, and even in the same species the hue differs with the age and sex. Thus in the excessively common *Aphis Tiliæ* the female is pale yellow, the male yellow and black spotted. In the species which abounds on the common Elder the winged individuals are much darker than the wingless, although the latter may beat them in size on exact measurement. On the Elder, as also on neglected Roses and other plants, aphides will be so numerous at times as to form a double layer, and one naturalist ingeniously explains the reason of this, telling us that the upper layer is engaged in the continuance of the species, and that the lower layer is busy feeding. This is more clever than true, for on this idea of the arrangement all the old folks must be above and the young folks below if we suppose that those once above eat no more but die off after they have become parents. But so far as I have noticed, aphides large and small are commingled in both these layers, therefore I imagine that they shift about somehow and take turns at getting sips of the sap. And in this place it may be well just to advert to the question as to the early nourishment of the young aphides, since, on the one hand, it has been positively asserted that they draw their food at first from the maternal tubes, and, on the other, that this sweet secretion (called also by the name of honeydew) is only directly taken from the bodies of aphides by their faithful attendants the ants. If we were to accept the former statement, then, of course, a female aphid which has proved a parent of a goodly array of young ought to have them swarming about her just as the reader must have seen a broad-sided sow attended upon by her litter of pigs. This does not seem to be the case; the recently hatched aphides take their places orderly enough, but not in such positions towards their affectionate (?) parent as would lead us to surmise she is also nurse. Yet it may be that young aphides do occasionally devour the honeydew, as this food is attainable so easily, and is, indeed, only a very slight modification of the juices of the trees or plant on which it occurs. But I believe aphides, however juvenile they may be, are well able to shift for themselves and draw from the vegetable world direct the food that Nature impels them to seek.

Proceeding next to give a brief outline of the annual circuit, along which aphid life runs, I have to remark that though several naturalists who were his predecessors in the study of the habits of aphides had observed the presence of wingless females in great numbers, either alone or in company with the winged, Charles Bonnet, who published his discoveries in 1745, was the first to see and record the astonishing fact that successive generations of aphides appear through the summer, all of which are females. He pursued the rearing of the insects in confinement for five generations, and other entomologists have found that brood after brood, under certain

conditions, can be produced beyond that point without the intervention of the males. How many broods annually follow each other when the insects are at large will depend on the weather, and also there are differences in the species, some being marvellously prolific. Bonnet had several individuals which gave birth to others when they were twelve days old, and though this need not be regarded as representing an average state of things, no doubt from May to September there are many successive broods of aphides, the bulk of them wingless; but winged aphides, almost invariably female, do show themselves from time to time—in fact, on any day during the summer we may see winged specimens on some plant or another. It is not necessary to show by argument that wings mean flight, therefore it follows that there are constantly aphides passing through the air, though May or June, the time varying with the wind and weather, are especially the months for aphid migration. The statement formerly made that flights of these insects only took place in the spring and autumn is not strictly true, though it may be correct as to some species. During the autumn, however, males appear in company with the females, eggs are deposited on the twigs and stems, and these generally remain unhatched for seven or even eight months. According to the observations of Mr. Walker in a few instances impregnated females live through the winter, laying in the spring.—J. R. S. C.

## ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 6TH.

**FRUIT COMMITTEE.**—Henry Webb, Esq., in the chair.—Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey Gardens, sent a dish of Early Crawford Peaches from the open wall. The weight of the six was 3 lbs. They were well-ripened, fine-looking fruit, and well deserved the cultural commendation voted to them. Mr. A. Offer, Felcourt Gardens, East Grinstead, sent a white-fleshed Melon that had been raised from seeds sent from Greece, but it was worthless; also a large variety named Felcourt Green-flesh Melon from an English variety crossed with the Grecian sort, but it was not well flavoured. Mr. W. Turner, gardener to W. Knowles, Esq., Streatham, Surrey, sent a Pine that had been raised from imported crowns. The fruit was very juicy, but of inferior flavour. A letter of thanks was voted. Col. R. H. Clarke sent fruit of Fig de l'Archipel from the open wall. It was of large size and fair flavour. A letter of thanks was voted. Nine varieties of Dwarf Kidney Beans were sent from the Society's gardens at Chiswick, including Canadian Wonder, Fulmer's Forcing, Scarlet Flagelot, Crimson Flagelot, Nain Blanc Quarantin, Advancer, Pheasant's-eyed, and Yellow Champion.

Messrs. Carter & Co., High Holborn, London, offered prizes for a dish of their new Green Gage Tomato. Sixteen dishes were staged in competition. The first prize went to Mr. J. Douglas, gardener to Francis Whitbourn, Esq., Loxford Hall, Ilford; he had very fine examples, large in size and perfectly round. Mr. J. Morgan, gardener to Major Scott, Wray Park, Reigate, was second with well-ripened fruit, but smaller; Mr. R. Brown, gardener to F. T. Barry, Esq., Clock House, Beckenham, was third also with very fine fruit. These Tomatoes made a very fine display, and the variety is one that is worthy of general cultivation.

**FLORAL COMMITTEE.**—W. B. Kellock, Esq., in the chair. The Council-room was made gay on this occasion by the boxes of Quilled Asters which were entered in competition for the prizes offered by Messrs. James Carter & Co.; by large exhibitions of Dahlias from Mr. Turner, Slough, and Mr. Keynes, Salisbury, and a few interesting plants. Amongst the Dahlias exhibited by Mr. Keynes three obtained first-class certificates—namely, John William Lord, orange scarlet, large, full, and cupped; Minnie Bond, cream, tipped with purplish lilac, but too open in the petals; and Mrs. J. Downie, a beautifully formed and highly symmetrical flower, white, heavily tipped with lilac, very attractive and good. Ada Radford, deep peach colour, was very attractive in the collection.

Mr. Turner's collection of Dahlias was very large, and a vote of thanks was awarded. For Figaro a first-class certificate was awarded. It is a well-formed flower with great smoothness of petal and of an orange vermillion colour, the orange predominating in the centre of the petals; it is very full and good. A similar award was also made to Earl of Beaconsfield, a rather small but very full flower of a deep rich maroon colour—one of the finest of very dark Dahlias. In this collection were fine blooms of the new variety Drake Lewis, the finest of all scarlet Dahlias. Another particularly charming flower in the collection was Heather Bell, lilac peach colour, very distinct and attractive; Burgundy, Claret Cup, and Christopher Ridley, a small but very full red variety, also attracted notice. A stand of twelve very fine varieties consisted of Flag of Truce, Baroness Smith, Jas. Hunter, John N. Keynes, John Standish, Countess

of Pembroke, Jas. Cocker, Memorial, Jas. Service, Harriet Tetterill, Mrs. Stancombe, and Sir G. Smith. Mr. Turner also staged a collection of Pompon Dahlias, and received a vote of thanks. There were twenty-four varieties, the whole of which were good.

A first-class certificate was awarded to G. F. Wilson, Esq., F.R.S., for Liliun neilgherriense, a grand flower, having smooth, massive, and gracefully recurved petals. It is of a creamy white colour, deepening towards the centre. The flower is trumpet-shaped, and 8 inches in diameter exclusive of the petal's curve, and from its remarkable substance must be considered as one of the finest of recent introductions. It was discovered in the Neilgherries, and bulbs were distributed last year. Mr. Wilson had a second-class certificate for Lobelia subunda; it was not in flower, but it is very distinct, its foliage resembling that of a miniature Begonia, being velvety and clear in its venation. Mr. Wilson also exhibited Echeveria Murrayana from the Rocky Mountains. Splendidly cultivated plants of tuberous-rooted Begonias were exhibited by Messrs. E. & R. Perkins, Leamington. Excellent, a cross between Stella and Prestonensis superba, is a rich crimson scarlet, having very large flowers of great substance; Majesticum, a cross between Sedeni and Prestonensis superba, has still larger flowers of a warm cerise colour. These are splendid varieties of an attractive family of plants.

Mr. Cannell, The Nurseries, Swanley, Kent, sent double Pelargonium M. Buchner, purplish crimson, exceedingly rich, and received a first-class certificate; also Fuchsia Boliviana, a species having large crimson clusters of flowers; Aurora superba, distinct, by the orange tint of its corolla; Mrs. H. Cannell, the best of the double whites; and Erecta Von Novelty, a most profuse-flowering variety, with semi-upright flowers, with greenish white sepals and a lavender corolla, a fine bedding and decorative variety. Mr. Kingsbury, nurseryman, Southampton, exhibited double white Fuchsia Kingsburyana, very large and floriferous, but somewhat coarse, and a semi-double white variety with variegated foliage.

Mr. Noble, Bagshot, exhibited his new Rose Queen of Bedders, a most profuse and continuous-flowering variety, fully meriting its name. It is a seedling from Sir Joseph Paxton, and has been previously alluded to. Mr. Dean exhibited French Marigolds dwarf and floriferous, and a Potato grafted on the Tomato stock and producing tubers on the haulm; but we have heard of Potatoes indulging in the same freak when growing directly from the tuber. Mr. W. Chapman, gardener to B. Reeves, Esq., North-end Lodge, Fulham, exhibited Nerine curviflora major having an umbel of scarlet flowers; Colonel Clarke, Welton Place, Daventry, hybrid Begonias; and Mr. H. Mette, Quedlingburg, North Germany, Humea elegans alba.

The prizes offered by Messrs. James Carter & Co. for twenty-four blooms of Quilled Asters went in the following order: To Mr. Giles, Wickham, Newbury; Major Scott, Wray Park, Reigate; Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford; Mr. Morgan, jun., Dood's Road, Reigate; and Mr. Gaines, Fairley, Hampton Wick. The best collection was disqualified on account of flour having been used, ostensibly to change the yellow florets to white. Had this device not been resorted to Mr. Benham would easily have had the first place. The same exhibitor staged excellent flowers in other stands, as did also Messrs. Carter & Co., the latter being awarded a vote of thanks. The Asters exhibited were Princess Alexandra, Snowball, Purple Prince, and Prince of Novelties, and many of the blooms were very superior. There was a good attendance of horticulturists.

## NOTES AND GLEANINGS.

FROM many districts tidings have reached us of the SUPER-TUBERATION OF POTATOES. The crops had become partially ripened by the extreme heat, and since the rains have fallen are producing small young tubers. The value of such crops is greatly depreciated, the quantity of the first crop, or the crop proper, being inferior, and the tubers of the adventitious crops are, where large enough, only suitable for planting. Some may hesitate to plant these, but they are superior for that purpose to the tubers which first ripened. Fortunate are those who dug up their crops so soon as the tubers had attained to a fair size, for they have now produce of superior quality. A sample of Paterson's Victoria has been forwarded to us by Mr. Luckhurst, from the crop which was taken up when the haulm was still green and when the skins slipped off the tubers. These tubers are of splendid quality, indeed they are as perfect as if they had ripened in a natural manner in the ground. Early lifting, with subsequent care in storing, are the only real means of escaping the disease and "second growth." It is a lesson, however, which the great body of Potato cultivators appear to be slow in learning.

—Mr. F. Hawes, gardener to Mrs. Rhodes, Henerton, near Henley-on-Thames, has this year grown some of the

finest COCKSCOMBS that have come under our notice for some time. They are of two shades of colour, some being deep crimson, others scarlet. They are grown in pots varying from 8 to 12 inches in diameter. These plants are splendid examples of culture, the combs ranging from 20 to 30 inches across. They have taken first prize at the Reading Horticultural Society's Show—in fact, they have secured first honours wherever exhibited for the last sixteen or eighteen years by the same successful cultivator.

—“J. P.” writes as follows on the PREVENTION OF CELERY FLY:—“To Celery-growers it will no doubt be a boon to find a preventive for that terrible pest the Celery fly. I saw some Celery plants a short time ago in several stages of growth at Mr. Reeves's, Walham Green, looking remarkably well, and not an atom of this pest about any of the plants. Mr. Chapman, the manager, says it is accounted for by using brewers' hops, which can be obtained at a trifling expense. As soon as the seedlings are pricked out he carefully spreads a few of the hops between them, and when removed to the trenches he again places hops amongst the plants. The hops answer two purposes—the fly will not come near the Celery, and moisture is secured in the soil by the mulching.”

—Two large pavilions used for the Bolton Flower Show were blown down during the SEVERE GALE which prevailed on the 31st ult., and much damage was done to the plants and shrubs.

—A LADY writing from Paris states that “in consequence of the excessive HEAT many trees have cast their foliage, and since the late rains occurred have commenced growing again, some Chestnuts on the Boulevards being now in flower, and have quite a spring-like appearance.”

—“A. W., Lincoln,” writes:—The fickleness of our climate has seldom shown itself in such a marked manner as during the latter half of the preceding month. The average maximum temperature from the 7th to the 21st was 80°, the average minimum during the same period being 51°. On the 22nd the temperature fell to 39°; a week of raw boisterous weather followed, the thermometer falling on two occasions to 35°. Tender plants, such as Poinsettias, were housed just before the change, and not a moment too soon, or they would have suffered irrecoverably.

—POISONING FROM LEAD IN VEGETABLES.—Dr. D. De Loos of Leyden writes in the “Weekblad van her nederlandsch Tijdschrift voor Geneeskunde” that he was consulted in October last regarding certain symptoms of paralysis and nervous disturbance which suggested the idea of lead-poisoning. The symptoms occurred in a family residing in the neighbourhood of a place where a manufactory of white lead had stood twelve years previously. They made use of vegetables growing on the spot. In order to make it certain that the poisoning was produced, as he believed it to be, by the vegetables, Dr. De Loos examined chemically some red Beet, Endive, and Carrots, and ascertained the presence of lead in all. In a Beet weighing 650 grammes he found the equivalent of a centigramme of metallic lead; in another of about the same size  $\frac{1}{2}$  centigramme; in six Carrots, weighing altogether 272 grammes, there were  $\frac{1}{2}$  centigramme of metallic lead; and the metal was also found in the Endive. The ashes of the plants also contained traces of copper, which had probably existed as an impurity of the lead.—(*British Medical Journal*.)

—HUMPHREY REPTON, the writer on landscape gardening, was buried at Aylsham in Norfolk, and the following is his epitaph inserted in the wall of the church close to the chancel door:—

“Not, like Egyptian tyrants, consecrate,  
Unmixed with others, shall my dust remain;  
But blending, mould'ring, sinking into earth,  
Mine shall give form and colour to the Rose;  
And while its vivid blossoms cheer mankind,  
Its fragrant odours shall ascend to heaven!”

A small railed-in garden is in front of the tablet, and this garden is always kept bright and orderly by cousins of Mr. Repton, who live in Aylsham.

—THE HEAT IN INDIA has this year been excessive. Long after sunset the thermometer registered over 100° Fahr. in rooms in which the air was agitated by punkahs, and in some of the hospitals it has stood at 100° for many days, scarcely falling even at night.

—POPULAR impressions are often far from the truth, and in regard to the Arctic regions they are undoubtedly so. A TREELESS LAND would be, in the opinion of most people, the

idea which would suggest itself in regard to the regions in question. Yet this, though true, is not all the truth. Within the Arctic Circle are found trees often forming considerable though stunted forests. In Eastern Siberia Pines and other trees come down almost to the water's edge; while over all Western Siberia, Arctic Russia, and Lapland the tree limit runs within the Arctic Circle. Trees extend even to the North Cape. In Greenland we find, even in the most southerly parts of it, no herbage more worthy of the name of tree than the stunted Birch, which in the more sheltered valleys of that country—equally inappropriately named with Iceland—attain the proportion of little shrubs; and it is not until we come to the milder latitudes of the Pacific that the tree line, which had described a southerly curve in the cold regions of Central North America, again rises to the north, and until we reach the shores of Behrings Strait we find nothing which we can dignify by the name of trees. The wooded banks of the Yukon touch the Arctic Circle, and forests of white Spruce are found on the Noatak, a river which falls into Eschscholtz Bay, which inferences on the Arctic Circle. In Lapland the Spruce ceases at about the 68th parallel, and the Scotch Fir at the 69th; but in Norway, owing probably to the presence of the warm Gulf Stream, which sweeps along the coast and into the Arctic Sea—at least as far east as Novai Zemlai—we find forests of Scotch Firs 60 feet in height as far north as Altenfjord, and Birches about 45 feet high in an equally northern latitude. In latitude 70° 28' the hardy Scotch Fir still maintains its ground, though the Spruce fails a degree or so further south. In the vicinity of Hammerfest, a well-known Lapland town, in latitude 70½° N., there are dwarf Alders and Aspens, Cherries, Raspas, and Currants. In the Scandinavian peninsula, probably also owing to the warmth which a sea unencumbered, and in addition laved by a current of a higher temperature, affords, Barley is cultivated as far north as the 70th parallel, the latitude of Disco Island, on the Greenland coast, and Oats up to the 65th, “in sheltered valleys, where rocks and cliffs reflect the sun's rays with much power.”—(*Dr. Brown's The Countries of the World*.)

—THERE are at the present moment in Ceylon 257,000 acres of cultivated COFFEE, divided into slightly more than 1200 estates, and giving employment to 1050 managers and superintendents, nearly all of whom are Europeans. Some 50,000 acres of these estates are not in proper bearing through being either too young or too old, and therefore 210,000 acres may be taken as the extent of the plantations of the island, which are accountable for the present year's crop (ending in September), estimated at 630,000 cwts. Last year the yield, with 8000 acres less in cultivation, was 873,000 cwts. The value of the whole plantation interest is roughly estimated at nine millions sterling of English money.—(*Nature*.)

—FROM many growers and judges at exhibitions we have heard that MELONS have this summer been singularly DESTITUTE OF FLAVOUR. We have tasted many fruits, and have been struck with their remarkably low quality. In a season so sunny we should have expected this fruit to have been unusually excellent. Is the general lack of flavour due to an insufficiency of moisture? or has the quality of the fruit been appropriated by the red spider, which in many districts has been unavoidably prevalent? Let the cause have been what it may, the fact remains, as so many have expressed it, that “Melons have not been good this year.”

—We are informed that the DECORATION of the magnificent conservatory which has been recently erected by His Majesty the King of the Belgians at Laeken has been entrusted to Mr. John Wills of the Royal Exotic Nurseries, South Kensington. This conservatory is quite different from the usual structures which are erected for the cultivation and display of plants. It is quite circular in form, is about 60 yards in diameter and 60 feet high, and has already cost, we believe, £80,000.

## ABOUT DOVER.

THE vicinity of Dover is the birthplace of English gardening. The Romans and Augustine landed there, and they both introduced horticulture. Gardens accompanied the erection of their villas and monasteries. Even the Roman strongholds had cultivated enclosures beneath their walls, and I could point out at Richborough Castle boundary mounds that might have been around such an enclosure. Of that Castle the ruins of three sides remain clothed with Ivy, but where bare the layers of Roman tiles are visible. None of the usual tenants

of a garden are now within that enclosure except Fennel, and this is in profusion.

That the Romans introduced gardening to Britain is certain. I have noticed the traces of the gardens, and if the museums of Kent and elsewhere are examined implements such as we still employ are to be found amongst the archaeological stores of the Roman period. If reference is made to the writings of Cato, Varro, and Columella confirmatory information may be thence gleaned; and it is recorded that Lucullus introduced the Cherry into Italy and in a few years into Britain. This must have been into Kent, and the county is still noted for this fruit.

Of the monastic establishments, illustrative of what their occupants effected for gardening, the nearest here is St. Rheadegund's Abbey, having the addition of Bradsole or Broad Pool, from the large mere in its vicinity. It was within little more than half a century surrounded by woods, but the woodman's axe has swept very many of them away, and no proprietor has planted for his posterity: the Irish gentleman's reason has prevailed, "Posterity never did anything for me." Of this Abbey and of the walls of its barn, paradise, and orchard there are considerable remains, and for the most part covered with Ivy. It is one of the places where the wild Columbine, *Aquilegia vulgaris*, is found.

Roses are grown in this vicinity more generally and in greater abundance than in most country districts. At the flower show here on the 29th of August were prizes for Roses in twenty-four and twelve distinct varieties, and the collections exhibited were good in number and quality. At that Show I was asked for a list of the flowers and plants adopted by various countries as their national emblems, but the list I could give was very limited—England's Rose, Scotland's Thistle, Wales' Leek, Ireland's Shamrock, and France's Lily were all that I could remember. Of family badges I quoted the white Rose of the Yorkists, the red Rose of the Lancastrians, and the Broom (*Planta-genista*) of the Pantagenets. Can some reader add to the number, and send them for publication? North America has not hitherto adopted a national flower, but in the following extract from one of the New York Journals one is suggested:—

"In our broad land, with its many climates, we cannot have a flower common to all parts. But there is one fair blossom twined in the affections of almost every American, and its fragrance, so delicately subtile, comes with the memory of it. It was the first gentle welcome the pilgrims received from an unknown climate, and—

'God be praised!' the pilgrims said,  
Who saw the blossoms peer  
Above the brown leaves dry and dead,  
'Behold our Mayflower here!'

"Then if we have no national flower, why cannot we all unite in so christening our loved Mayflower or trailing Arbutus? Whittier exalts it to that honour when he writes:

'O sacred flower of faith and hope!  
As sweetly now and then  
To bloom on many a birchen slope,  
In many a pine dark glen."

"The pilgrims came and blessed the granite shores of New England with their faith. They crossed that threshold to 'our country,' and over stony paths and bloody battle fields unfurled the flag which in its purity and beauty has waved for a hundred years. Now, in our days of ease, prosperity, and happiness,

'Be ours the love that overruns  
Its rocky strength with flowers,'

and let us plant in the shadow of every star-spangled banner the emblematic blossom, with its pale tints and lingering sweetness, and know it by its homely name—the Mayflower."

One of my first excursions here was to Walmer Castle. Its flower gardens are most brilliantly crowded. I say gardens, because the moat is decorated in a style distinct from that of the garden proper. The latter is most richly furnished, so that I can say without reservation that in no garden is there massed throughout such a variety of the brightest-coloured flowers. The centre walk has a ribbon border on each side composed of broad lines of *Cerastium*, blue *Lobelia*, scarlet *Geranium*, and *Bachelor's Buttons*—the white flowers of the latter detract from the gradation of colour, which would be more effective if the white was superseded by a dark-leaved *Coleus*. Having seen the Willow overshadowing Napoleon's tomb in St. Helena, I hoped to see its offspring which for many years grew here upon the lawn. I was disappointed, for Lady Granville has had it destroyed. Her ladyship has superior taste in flower gardening, but appears not to have a reverence for trees, for

not only has the historic Willow but many patriarchal Beeches have fallen by her order to render the garden views more attractive. The destruction of timber trees is a thoughtless and injurious act, and more suggestive of consequences than the waste of coals. If Sweden and Norway do not plant as well as fell, their Pine forests must in time cease from yielding the hundreds of thousands of deals which I see daily unloading here. Why are they called "deals?" Was it because Deal was the usual place of importation? They could not have imparted the name to the place, for Deal is a contraction of the Anglo-Saxon for "a low seashore place."

An American journal states that "in 1870 the amount of sawed lumber consumed in the United States was 12,755,543,000 feet, with at least 50 per cent. of its aggregate value of shingles, staves, and box material. If this consumption goes on in the same ratio, as it is reasonable to infer must be the case, it is somewhat startling to conjecture how the next generation is to be supplied. We are assured, however, that there are still left 225,000,000,000 feet in the ligneous regions, to which may be added some 25 billion feet in the non-ligneous districts, while we must also bear in mind that forests are constantly growing. Notwithstanding the enormous destruction of hard timber for furniture-making, there is still left a belt standing from Central Pennsylvania to near the Gulf of Mexico of one unbroken forest of furniture timber, besides the fields of Indiana and southern Illinois, south-eastern Missouri, and one-fourth of the State of Arkansas. There also remains in timber over 40 per cent. of all New England, over 50 of New York, Pennsylvania, and Ohio, from which but a moderate share of that adapted to furniture-making has as yet been cut. And even our north-western Pine fields are not without a goodly share of furniture timber interspersed. This, however, does not exonerate us from taking good care of our timber lands, and doing all in our power to help them to increase and multiply."

The Napoleon Willow is not the only vegetable notoriety I have missed, for my search has not been successful for the Samphire rendered notorious by Shakespere. Neither on the cliffs nor on the shore beneath them have I found a plant of the *Crithmum maritimum*, but nowhere have I seen a greater abundance of the parent of all our Cabbageworts, the *Brassica oleracea*.

In driving to Waldershare, another notoriety of the vicinity, the road leading to Archer's Court is passed. The house is of respectable appearance, built of brick, but of no greater age than that of the Stuarts. It has, however, a history, part of which is that the manor tenure is that the tenant shall hold the king's head when he is seasick. This must have been arranged at the time when the king's only sea voyage was from Dover to Calais. Waldershare Park is the seat of the Earl of Guildford, and during the American War, Lord North often resorted hither and sought to recover equanimity after enduring the lashings of "Junius." The house is a fine old brick mansion, and the park is studded more thickly with noble Beech, Sweet Chestnut, and Oak trees than any other I can call to mind. I should have liked to have seen the gardens, but the head gardener, Mr. Merryfield, was absent. The mansion, from a design by Inigo Jones, was built in 1700, whilst the estate belonged to the Furnese family.—G.

### ERYNGIUM MARITIMUM.

At first sight the Sea Holly is to look at one of the most curious as well as one of the most interesting plants in cultivation. No plant, native or otherwise, calls forth so much wonder as the Thistle-like *Eryngium maritimum*, which is found wild in many places of our sea-girt isle. It, as well as all the family, are adapted for the decoration of ruinous places. The plants like a rocky or sandy medium for their development. They are not over-particular as to soil or situation. They thrive in partial shade or full exposure to the sun. They may be raised from seed or be increased by division, which is best done in spring when growth has commenced. When once established they continue healthy for a long time. The *Eryngiums* are grand objects for large borders. As we are now moving in the direction of hardy herbaceous plants, perhaps the subjects in hand may receive a share of attention that has hitherto been denied them. A group of them in the centre of a large bed is very attractive. All the family are of varied shades of blue. I am inclined to think that *Eryngium maritimum* is one of the most attractive of the race, having a silvery white appearance, affording a fine contrast to its beau-



tiful blue flowers. Some of the species are said to possess medicinal properties, and are of service in case of fevers. The kinds most commonly met with in cultivation are *E. alpinum*, *E. Bourgati*, and *E. amethystina*. There are others of this interesting family which ought to be brought into general cul-



Fig 27.—*Eryngium maritimum*.

tivation, and which could not fail to give satisfaction to the cultivator of them.—N.

# WORSLEY HALL.

THIS princely residence of the Earl of Ellesmere is about six miles from Manchester and one and a half from Worsley station. Worsley and its neighbourhood are celebrated for engineering difficulties that have been overcome in days gone by. From the terrace walk in front of the mansion you can see the railway trains rushing over the Chat Moss, a "Slough of Despond" that almost baffled the skill and patience of George Stephenson to lay his railway over it when he was engaged in constructing the first line from Manchester to Liverpool. Worsley itself is equally celebrated for the engineering skill displayed by Messrs. James Brindley, John Gilbert, and the Duke of Bridgewater, who in the year 1754 gave himself up to a life of unremitting work; and the purpose to which he devoted his life and his fortune was the development of the mineral wealth of the estate. Mr. Brindley supplied the brain power and the Duke found the money; the engineer being paid the small sum of 2s. 6d. per day for his wages. Other trans-

actions took place between the Duke and Mr. Brindley. The following modest bill for work and expenses has been copied from a photographic copy of the original. It is worthy of notice as showing the frugality of the man, and as affording a striking contrast with the "professional" charges of the present day.

Expenses for His Grace the Duke of Bridgewater to pay for traveling charges by James Brindley:—		£	s.	d.
18 Novem., 1761.	18 No. Mesuring a Cross from Dunham to Warbuton, Mosely, and Thailwal. Dunham for 2 dinners, 1s. 8d., for the man 1s.; at Thailwal 1s. 2d. All night Worington, 3s. 11d.	0	7	4
19 Novem.	Set out from Chester for London, and returned back. Going to London, and at London, then back to Worsley, charges Hors and myself	4	8	0
9 December,	coming back from Hamston; charges at Wilderspool all night	0	8	0
	At Worington, to meet Mr. Ashley, dining	0	4	2
10 do.,	Chained the Turnpike Rode, 2s. 6d., and again on ye 12 ye Rode, 3s. 6d.	0	6	0
21 Decem.,	To inspect ye flux and reflux at Hamston, 2 days charges	0	6	6
		£6	00	0

26 Decr., 1761, Recd. the contents of the above bill by the hand of John Gilbert, Esq. JAMES BRINDLEY.

Brindley's great work was the underground canals, the opening to which the visitor passes on the way to the Hall from the railway station, and will not fail to notice the peculiar-looking boats or barges floating in the basin. Through this tunnel the mineral wealth of the estate is carried in these deep narrow boats. The canals or tunnels extend to a length of forty miles. The boats are propelled by means of staples fixed in the roof, and three men can work thirty-two boats chained together and extending over a quarter of a mile. The Duke also made a canal from Manchester to Runcorn in one direction, and to Bedford Leigh in another, which the railways have not yet done away with. All the works of the late Duke are still in active operation, and are carried on by the Bridge-water trust. In "the yard there are three hundred persons employed, and about £60,000 worth of timber is annually brought to the yard to be used in the manufacture and repair of boats and barges and colliery appliances. In the yard is a square tower of tasteful construction, which contains a clock made by direction of the Duke. On one occasion he found one of the workmen late, and on inquiring the cause the man said he did not hear the clock, as it struck only once. This was speedily altered, and the clock was made to strike thirteen."

At that time the house built by the Duke was a plain red-brick erection, not a flower nor ornament of any kind was to be seen. Only the directly useful was tolerated.

The eccentric Duke selected as his heir Lord Francis Leveson Gower, who was but three years of age at his death, and it was not until 1833 that he took possession of the estate. He changed his surname, and was better known as Lord Francis Egerton, and ultimately as the first Earl of Ellesmere. His lordship, in conjunction with his amiable lady, sought at once to improve the moral and spiritual condition of their dependants. Schools were erected and maintained in Worsley and Walkden Moor, and ultimately churches were erected in their vicinity. One of them faces the principal entrance to the grounds. It is a fine building with a magnificent spire, and is worthy of its noble founder.

The kitchen garden is reached from this point by following round the outer wall and entering, as I was told, at the fourth gate. I was fortunate to find Mr. Upjohn at home. His cottage has been built on the margin of the Chat Moss, and part of the garden walls have been built on that insecure foundation, and even the mass of solid concrete underneath them has failed to keep them all in an upright position, the west wall leaning heavily outward. Everything about these gardens is of the most substantial character. The residence of the head gardener is both comfortable in appearance and elegant in design, and is also beautiful for situation. The kitchen gardens are about ten acres in extent. The ground is well and judiciously cropped, the Chat Moss soil appearing to answer for most vegetable crops. The walks are very wide, that round the outer walls being 14 feet, and it is very convenient for carting manure, as it admits of its being brought close to the gates.

The crops outside the walls are very good, vegetables of all sorts being in excellent order. I find that the Potatoes have not started to make a second growth, as they are doing almost everywhere in the neighbourhood of London, the haulm at

Worsley being very even in length, a sure sign of a good crop, Gloucestershire Kidney and Mona's Pride are the sorts most esteemed. Next we come to some fine rows and beds of Celery, and here again the appearance of the plants shows that care has been exercised in the selection of the stocks; Major Clark's Red and Incomparable White are the principal varieties. In this dry corner of Essex it has been a great difficulty to obtain Peas; the haulm has not been nearly so long as usual, but in the deep Chat Moss soil Peas have grown amazingly, and were at the hottest period of the year of that deep green colour which is a sure sign of robust health. I rather fancy that, notwithstanding the soil, skilful culture has something to do with the results. There was plenty of room between the rows, and the rows had been drawn in trenches about 3 inches deep and a foot wide. A large portion of the rain that falls runs into the trenches, and they are convenient when artificial watering is resorted to. Williams' Early Prolific Dwarf Kidney Bean is considered to be

the best variety for forcing and early crops. There is also a fine breadth of Beet; the best seemed to be Dell's Crimson, a fine highly-coloured sort, the foliage of a deep reddish purple shade, the roots medium-sized, of a deep red colour and excellent flavour. This variety has many synonyms, amongst others Osborn's Red, Improved Black-leaved, Perfection of Beets, Dwarf Waterloo, &c. Altogether this part of the garden is in excellent order—the ground free from weeds, and the crops in superior condition.

As we enter the walled garden at the side furthest from the gardener's house the first object that arrests attention is the "Trentham Peach cases" for walls. This is an elaborate structure, with high front upright sashes and a span-roof. It requires only a glance to see that this is not nearly so well adapted for ripening fruit on trees trained to the wall as a light lean-to glass framework that could have been put up neatly and substantially for a third of the expense; indeed,

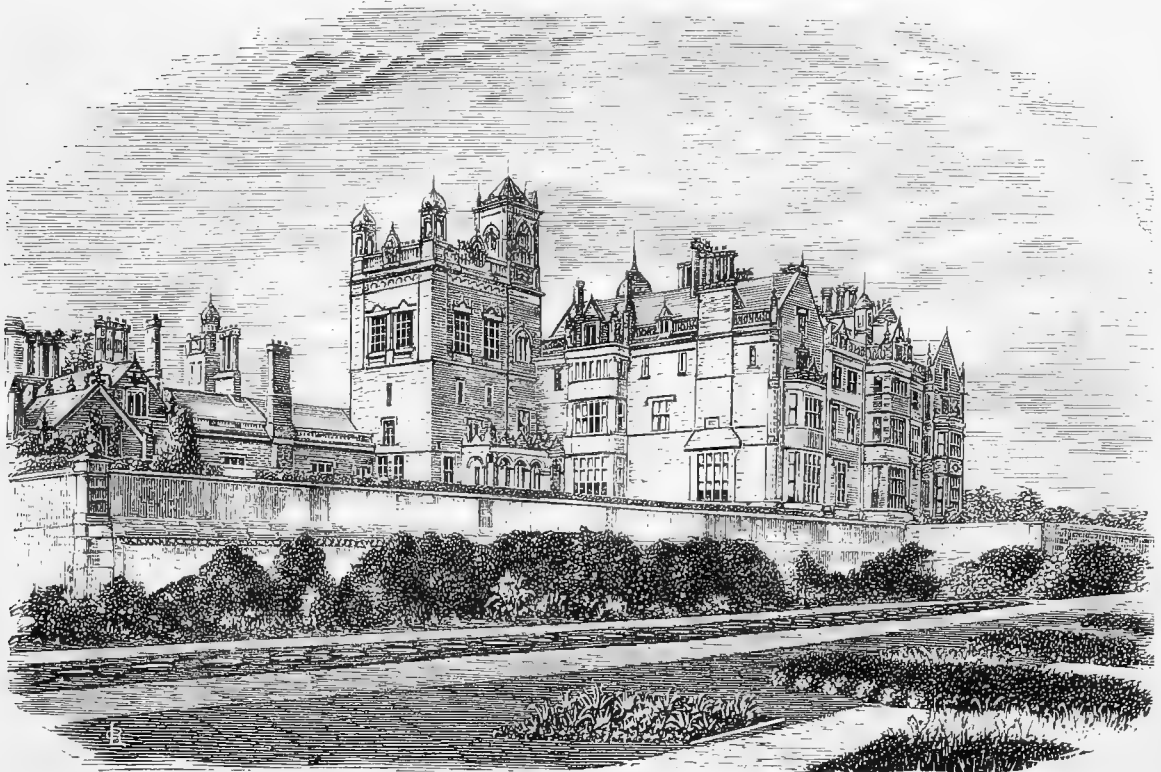


Fig. 28.—WORSLEY HALL.

Mr. Upjohn has found that the fruit does not ripen well on the wall trees, and he has removed some of the trees from their position against the wall and planted them about a foot or more from the front wall plate, and trained them to a trellis near the glass. The best Peaches (and of them there are fine examples) are Early Alfred, Royal George, Red Magdalen, Stirling Castle, and Barrington.

We next inspect the vineries, a range of wide roomy structures in four divisions, comprising early and late houses. Mr. Upjohn was anxious to test the new Grape Vines that have been sent out recently. He has tried nearly all of them, and has some of the more recent now on trial, but none of them are likely to shake his faith in the Black Hamburgh and Muscat of Alexandria. These two sorts will be grown when most of the recent varieties are forgotten; not that many of the new varieties are unworthy of culture, nearly all of them have some quality or another that recommends their culture to connoisseurs; but when a gardener has to keep up a continuous supply of Grapes for a large family he will grow those sorts that can be depended upon at all times and under any circumstances. The craving for something new in these recent times has had much to do with flooding the country with novelties that please for a little, but will not stand the test of time. The earliest house is mostly planted with Black Hamburgh and a few Snow's Muscat, with one Vine only of Madresfield

Court Muscat. The next house in the range is a late one, and contains some vigorous Vines, on which were hanging excellent examples of Black Hamburgh Grapes; Gros Colman, Alicante and Lady Downe's are also grown. Passing on to the next division we have Buckland Sweetwater and White Lady Downe's. This variety has not come into extensive cultivation, but Mr. Upjohn thinks highly of it as a late-keeping Grape. It is quite as good in flavour as Lady Downe's, and keeps equally well, this last quality being its best recommendation. Venn's Black Muscat has also been planted, and Gros Colman is growing strongly, carrying large bunches and berries, but they do not colour well, nor are they of good flavour. In the fourth house Muscat of Alexandria is the principal sort, and Charlesworth Tokay, which is only a form of Muscat of Alexandria. Duchess of Buccleuch—a rod of this sort should be grown wherever there is a large range of vineries. It is a most exquisitely flavoured variety, but it is, perhaps, surpassed by Pearson's Dr. Hogg. There are also canes of Duke of Buccleuch and Waltham Cross. The first-named sort had a number of bunches; the berries were very large, measuring  $4\frac{1}{2}$  inches round the shortest way, but the berries are very nearly round, differing in this respect from Golden Champion, the berries of which are more elongated. The berries have set very well on the Waltham Cross, and have formed large compact bunches. While the Vines were in flower the tempera-

ture was kept at 65° at night. From here we pass into the Peach house, the most conspicuous object being a fine tree of the Victoria Nectarine. Here, as everywhere, this fine late sort is much valued.

We are next attracted by large ranges of pits. A few of them are span-roofed, but the greater number are lean-to's, constructed for bedding plants, of which about sixty thousand are required. A span-roofed house 50 feet by 12 feet wide has been planted with Melons. There are beds on each side of the centre path, and it is a fine sight to see the fruit hanging from trellises on each side. Unfortunately a disease has taken the plants in the form of canker. It is not unfrequent to see Melons die off with canker at the base of the stem, but here it has spread over the whole plant, and bids fair to spoil as fine a crop of Melons as I ever saw. One plant that had been planted in the Chat Moss peat was later than the others, but quite healthy and free from canker.

Pines are grown in lean-to houses or pits that have been heated on the Polmaise system; this, of course, has been altered to the usual hot-water pipes, and it is astonishing how good Pines can be manufactured in such old-fashioned structures. There were some good Queens and a few Jamaicas and Smooth-leaved Cayennes coming on for winter use.

Figs are also grown in this range, and fairly good fruit is produced; but it is very trying for a gardener who has old-fashioned houses like these to manage to compete with those who have everything done according to the present system of building and heating. My remarks have extended far enough for the present, and a few notes made in taking a walk through the grounds must be kept for another occasion.—J. DOUGLAS.

## ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 4.

Of trees adapted for city growth and patient of town smoke, one or two, and those among the best, have been enumerated in the foregoing groups. The Western Plane is familiar to the eye of the most thorough Londoner in most of the squares and in the very heart of the City. It retains its health and grace whether in leaf or leafless. The foliage of the Horse Chestnut, too, takes little hurt from smoke or drought, and as the tree is content with hard soil and scanty root room, it should be welcome in towns, even if it comes short of its finest growth, for its racemes of blossom, which might be varied by those of the rose and yellow-flowered species. The Lombardy Poplar which keeps its health and gloss despite of drought and dust, deserves to be used for avenues and boulevards in the broader streets, and the same may be said of the *Quercus fastigiata*, which resembles it. The weeping large-leaved Elm (*U. montana pendula*) has approved its qualifications for a London tree, adapted for the parks and gardens as well as smaller squares. Mr. William Robinson, to whose authority on such a question we attach great importance, refers us to the specimen of this tree on the lawn of the Botanic Gardens. In general, Elms and Limes have no business amidst the smoke and dust. To judge by the same writer's experience of the *Robinia inermis*, a round-headed variety of the Locust Tree, in the cities of north Italy, it ought to do well in our London parks and gardens, where its umbelliferous top, deep verdure, and grateful shade, could not fail to create a favour for it. A tapering variety (*Robinia pseudacacia stricta*) is in habit very like the Lombardy Poplar, and might with advantage find its way into our town gardens, which it would enliven by its racemes of white and fragrant blossom. For this merit, in addition to their ample and broad foliage, we suppose that the *Ailanthus*, *Paulownia*, and the *Catalpa syriensis* would be additions to our City parks and squares. The first, if least conspicuous in flower, yields to none in fresh and healthy dust and drought-proof foliage. The second affords an abundant shade from a mass of leaves larger than those of any hardy tree, while its fragrant violet flowers in large terminal panicles are as showy as the Foxglove, which they somewhat resemble. Tender in the north, they will thrive in the climate of London, and are very successful in the gardens of Paris. The *Catalpa* too, not unlike the *Paulownia* in size of leaf and beauty of flowers, is perfectly hardy about London. Its blossom is white with yellow and purple spots. There is a fine-grown *Catalpa* at Muswell Hill. The weeping grafted variety of the *Sophora japonica* is another flowering tree of graceful habit, the pretty foliage of which has no objection to the heat and drought of towns. Into the urban parks and gardens Mr. Robinson would freely introduce the free-growing *Rosacæ*, Hawthorns,

Pears, and Almonds, for their diverse spring bouquets, and which is more worth consideration among trees, the *Liriodendron tulipifera*, a hardy timber tree with large, light-green saddle-shaped foliage, and when it has attained a fair size, a display of cream-coloured Tulip-shaped flowers. It was an early introduction from North America, and has been known to reach 120 feet. Before quitting this part of our subject, and whilst remembering the difficult problem of unsightly stems of trees in a dying or dead state to be met with in the parks, we may borrow a suggestion from the "Heatherside Manual" to plant at their feet such twining shrubs as the *Wistaria*, and *Aristolochia*, and *Akebia*, by which means many an indifferent trunk or group of trees might become a network of mixed foliage.

But though deciduous trees are the backbone of our native timber, where would be the setting of our picture of reds and yellows, where the supplement and finish to our gardens, lawns, and even parks, but for such extraneous races as Pines and Firs, Cypressess and Junipers? Of these the first and second constitute a threefold clan, amongst the members of which none is more worthy of commemoration than the Scots Pine, the sole indigenous species. Its nature is thoroughly hardy; it thrives, as indeed do many others of its race, on the poorest soil and the scantiest, its roots penetrating through débris and fissures of rock, and its growth assisted most by free air and a sandy gravel. Some of the Pines no doubt require more shelter and a lower altitude than others, but the soil they appreciate most is one assimilated to that of their native habitats, where at least the accidental top-dressings are accumulations of débris and vegetable matter, and not rich manure such as cultivation and solicitude might suggest for them. It is probable that nothing improves the Conifers of our gardens and home-precincts so much as an occasional cartload of road scrapings. What the Scots Pine is in its native forests Mr. Grigor tells us in his description of Glenmore Forest, one of the largest trees in which was cut up and a deal from its centre presented to the Duke of Gordon by the ship-builder who bought it. The annual layers of wood, according to Grigor's "Arboriculture," from its centre to each side number 235, indicating that number of years. The surface of this forest is sandy peat, its subsoil a rich brown clay. The produce of it built forty-seven sail of ships for the Royal Navy and the East India Company. But amongst southerners it is no mean tree in point of beauty or usefulness. Note its fantastic shapes, its dark red stem, its warm bluish-green foliage, as in winter or summer it stands out into the sky in contrast to the deciduous trees around it. No tree for the picturesque can beat a pair of Scotch Firs, or even a single one. Wordsworth, Mr. Grigor tells us, preferred it to the Oak in winter, in moonlight, and at evening. Next to it in hardihood is the Austrian Pine introduced by Mr. Lawson in 1835 from the Styrian forests, but now thoroughly naturalised and appreciated in Great Britain. It is a quick grower, of dark green glossy foliage, and strong stiff leaves with a pricked point. It makes an excellent shelter, and bids fair to make a noble and ornamental tree, as in its own country it reaches 150 feet. A good contrast to its dark foliage might be found in the clear transparent green of the *P. pyrenaica*, which was brought about the same date from the highest mountain range betwixt France and Spain, and is of noble aspect, odorous bark, and quick growth. There is one at Dropmore 75 feet high, and it is said to grow above 80 feet. From the "Forester," however, we gather that it is more for ornament than use, and that though used for the decks of Spanish ships, it is inferior to many of our naturalised Pines as timber. The Corsican Pine, *P. Laricio*, is of far greater value as one of the most sound and rapid-growing of Conifers, of great hardihood, and a capacity of reaching 120 feet. It has attained to upwards of 70 feet at Dropmore. Nor is it less ornamental than useful, having a distinct pyramidal habit from the horizontal spread of its whorls of branches, and the loose wavy spread of its dark bright-green leaves. The Calabrian Pine is not unlike it, only with longer and more slender foliage. The Cluster Pine (*Pinus Pinaster*), introduced by Gerard from the south of Europe in 1596, is also a rather handsome tree, rugged and massive when seen alone, as at Fulham Palace, 80 feet in height and 12 in girth. But its prime use is with the Norway Maple, to screen plantations on the seacoast, in which respect it has assisted Norfolk to emulate the coast of Gascony in the recovery of sandy tracts. As timber it is of slight account; and herein, as in its deep green foliage and depth of root, it resembles the Stone Pine (*P. Pinea*), though differing from it in being far

less bushy and stunted, as well as in having starlike and not round cones. The latter came from Italy earlier in the same century, and its best use is for a dense bush to hide objects just behind it.

The above-mentioned Pines, with two or three interesting dwarfs, have their leaves in pairs. Of those which have them in threes the most considerable are *P. macrocarpa*, *P. Benthamiana*, and *P. insignis*. The first came to us about forty years ago from California, the third in the same year, and the second about fourteen years later from the same country. Already the wavy habit of the glaucous grey foliage on branches horizontally set and distant from each other, the violet bark of the young shoots, and the length and breadth (12 inches by 6) of the dark yellow cones of *P. macrocarpa*, make it a striking contrast to the dark-hued Conifers, and inspire hopes of a majestic tree if in its younger stages its tops do not suffer from the action of the sun after a frost. In its home it attains 100 feet, a height which is doubled, however, by *P. Benthamiana*, a hale giant, with branches irregularly spread, clustering cones, and dark green leaves, resembling those of the North American *P. ponderosa*, only longer and darker. It has the advantage over the latter that it makes deeper roots; and it is of rapid growth if defended when young from the ravages of insects. From its mountain home in the Sacramento country we should augur its hardihood in Great Britain; though there might be more questions as to *P. insignis*, which is probably from lower altitudes, and certainly needs shelter from frosts, although it likes a situation fairly high and dry. The grassy green of its foliage makes it a lovely contrast to the darker Conifers, as well as to most deciduous trees. Indeed it is a Pine worth care and watching, one that no lawn or park should be without. That it may weather our frosts and survive our winters is proved by its attainment of the height of 70 feet, with a girth of 8 feet 7 inches, in that nursery of choice Conifers, Dropmore.

Of Pines with five leaves none surpasses the Himalayan *P. excelsa*, naturalised in this country for some fifty years. An open, spreading-branched, conical tree, it has a pale bark, pendulous habit, and long slender glaucous green leaves. It likes air and light, with moderate shelter, and bears some resemblance, though of more elegant habit and rapid growth, to the Weymouth Pine (*P. Strobus*). In its own country it is called the Weeping Pine, and found with the *P. longifolia*, or Cheel tree, and the Pinus Kutrow. *P. excelsa* reaches 120 feet in its own country, and *P. Strobus* 130 in its North American home. Of the timber of the former we know no more than that it is white, compact, and resinous. The latter often passes for red deal from America, though not really equal to it in quality.

The oldest type of Spruce in this country is the Norway Spruce (*Abies excelsa*), which was introduced as early as 1548. Unlike the Scots Pine, to which of our home-grown timber it comes next for plants and scantlings, it is of pyramidal habit, and feathers horizontally from top to bottom. Its deep green foliage is rich and dense. Owing to its rapid growth and encroaching roots it is not so good a nurse as it was expected to be, but it will do justice to ground of its own in a sheltered hollow free from wet subsoil, and should be planted in a group or singly. In such situations it may reach the height (130 feet, and 16 feet in girth) of the Studley tree, said to have been planted by Eugene Aram, or the Blair Athol Spruces, some of which are 110 feet high. The Black Spruce (*A. nigra*) with blackish bark, light spiral form, and dark green foliage, differs from the excelsa in its more pointed habit. But most familiar to us after the common Spruce is the Canadian or Hemlock Spruce, a contrast to it in its vivid light green foliage, with a silver striped underlining. Slow to start into growth, and particular as to soil, it is a little disappointing at first; but towards thirty or forty years of age it assumes a graceful pendulous habit, which, however, changes to horizontal, and becomes more Cedar-like as the tree grows older. We do not hear of it as a timber tree; but few Conifers are so noticeable for elasticity or look so well when bearing, as it does without collapse, a heavy burden of snow. There are good samples of this *Abies* at Studley Royal, Elvaston, and elsewhere; but it has not yet reached in Great Britain its Canadian height of 110 feet. *A. Albertiana* from Oregon (1858) of which our largest English sample is about 20 feet high, is said to be likely to eclipse it in grace, growth, and timber. At home it reaches 140 feet. The fault of the White Spruce, a slow grower of silvery aspect, and of the *Abies Morinda*, a Himalayan Spruce of drooping habit and great promise, is their impatience of

transplanting; but this fault cannot be attributed to the *Abies Douglasii*, a king among Firs in respect of vigour, habit, and dense dark foliage. The young shoots are of a tender light green, the mature leaves bright green above, pale and glaucous below. Introduced from North America half a century ago, it has reached upwards of 100 feet at Dropmore, and 70 at Hopetoun House; and feathered to the ground with foliage of cheerful bright green above, and a glaucous underleaf imperfectly two-rowed, it is really noble to look upon. Few Conifers are easier to acclimatise, as the seeds ripen readily, and with moderate shelter the young plants are not fastidious as to soil. The Dropmore specimen was raised from seed in 1828. The Californian *A. Menziesii* is not unlike it in character and nobility of aspect, besides being nearly as rapid a grower and very hardy. It might be worth planting for forest purposes, though as a single tree it is against it that it is semi-deciduous, and that its branches are left bare during part of the spring. We have yet to mention *Abies* or *Picea nobilis*, perhaps the most majestic Fir of all, a Californian species introduced in 1831 by Douglas, of pyramidal appearance, deep glaucous hue, and an incurved habit of foliage which allows a view of its glaucous underleaf. The bark of the stem is cinnamon-hued, its branches and cones being of a purplish tinge. Like *A. Douglasii* it is undeniably hardy and adapted to cool-bottomed soils in moderate shelter. In Mongredien's "Trees and Shrubs" there is an engraving of a fine specimen at Wimbledon; and another at Dropmore is from 50 to 60 feet high. Others in Scotland are of equal height and proportionate girth; but we learn that one such was uprooted by the high winds of last October.—(*Quarterly Review*.)

## FLOWER GARDENING.

"EVERY dog has its day," and so has every fashion. Now that a reaction has evidently set in with considerable vigour in favour of hardy herbaceous flowering plants, some seem to think that what has been nicknamed "bedding-out" has nearly had its day, and that it must be cast aside as a fawdry vulgar delusion, if not something worse. Well, our strength does sometimes grow out of our weaknesses; and like the stag which admired its elegant head of horns and was ashamed of its feet, till the hunters appeared on the scene, when what appeared its shame proved its best friend, so what in gardens has been most admired may turn out of least use to us. There is, however, a use and a place for everything in the way of flowers as well as there is for horns and feet. There cannot be a doubt that our grand old herbaceous border plants have been far too much neglected for a long time, and it is matter for rejoicing that the tide has set-in in their favour.

While we agree with every word that some writers have said of the folly shown in so much neglecting hardy plants, we have no sympathy with their sweeping condemnation of the modern system of parterre flower gardening. It is not only the most effective and appropriate style of flower gardening for certain positions, but it has, beyond all doubt, done more than any other system to popularise and foster the love of flowers among the masses. And we do not believe, nor do we desire, that we are near the end of its reign yet. The great charm of the one is that it is diverse from the other. The two together make a complete whole in gardening; and the discussion about the superiority of the one over the other is, to say the least, unprofitable. The one may be regarded as the brain, and the other the heart of flower gardening.

The error in this matter has been in allowing one phalanx of flowers to elbow every other out of many gardens. This has resulted neither from good taste nor economy. Great errors of judgment have also been manifested in trying to adapt the massing of tender plants which do not bloom effectively in many localities to every garden. There are some localities in the British Isles where this style of gardening has proved just so much labour lost, and where it should never have been attempted except on a small scale, especially as it is just in such localities that hardy herbaceous and alpine plants are more satisfactory. In moist sunless districts the grouping of tender flowering plants outdoors never could be more than a comparative failure, while it is just in these localities that most herbaceous and alpine plants grow the best and continue to bloom vigorously for the longest time possible. But then, herbaceous plants in some other localities, where the soil is sandy, dry, and poor, and the rainfall very little, bloom but for a short time; and let the autumn, as it frequently does, prove one of drought, and the herbaceous-border gardening is one of



the most dejected spectacles that can possibly be imagined. Here then is the locality that suits the tender system, and where it should preponderate and be developed to as high a pitch as it is possible.

We are not going to balance the tastes that come into play in making a hobby of any system of gardening; what we want to show is the futility of trying to gain an end and gratify a taste with all the elements of nature against you, and the stupidity that has been practised in trying to get a kitty wren to develop canary's feathers. Then, again, there is the season of the year at which a floral display is required. This should have something to do with the decision of those who love flowers. Taking the great gardens of this country, as a rule nine-tenths of their proprietors are absent from their country seats when herbaceous plants are in their glory, and arrive at their seats to see only the fag (and that the least interesting) end of them. On the other hand, there are numbers of proprietors of our lesser villa gardens, who, as a rule, leave their places for a month or two, just when the tender system is coming into bloom, and come back to see it either washed out with wet or cut down with frost. In the case of the latter, their error lies in not going in for the hardy system, which they could enjoy all spring and early part of summer. The adaptation of systems, in most cases, is what is called for, not their extinction, and in many cases the combination of the two yields by far the greatest amount of pleasure.

Besides, before we can substitute any one system for another, an entire revolution must be wrought in the plans and disposition of our garden grounds. In many cases this, in our opinion, would be desirable, apart from any floral effect whatever, for in many places the entire repose and natural beauties of the grounds have been so tortured with square and compass that there is not a line of beauty or a refuge for repose to the eye left. This is one great abuse to which our geometrical flower gardens, for colour displays alone, have led. Every piece of greensward has been tortured with the most nonsensical whirlinggigams that an expert hand at the compass could devise. It is not that such designs should not be in their best forms, but the evil has been that they are wrongly placed. They stare at you everywhere, and hard lines of Box and grass, and glaring gravels and broken spars and stones, have taken the place of "lines of beauty" and graceful vegetation.

We are afraid that even yet comparatively few have sufficiently examined and observed our hardy border flowers to discover their extreme beauty. If a plant comes from "some place far abroad," sells for ten or fifteen guineas, and requires a temperature enough to stifle a human being, it is a world's wonder. Let the observer take it out to the herbaceous border and compare it with that exquisitely formed, pencilled, and shaded hardy Iris that will thrive by a ditch side or in cold ungenial soil, and we will answer for it the Iris does not lose by comparison. Take that splendid spike of Calanthe, or anything you please, and lay it side by side with that towering spike of wondrously coloured and formed Delphinium, and see which loses by the contrast. Go into the grandest modern parterre garden in Europe, and make up the most graceful bouquet that an acre under tender plants can supply, and then go with the same skill and discrimination into your herbaceous ground and make up a bunch or vase of flowers from it, and if the latter does not make the former pale, both for exquisite delicacy of colouring and beautiful graceful forms, it will be surprising. Go again in search of interesting objects into the one garden and then into the other, you will find food for observation and study, as far as variety of form, colour, and character are concerned, that will be inexhaustible, and fresh and new every day for long months in the year, in the one as compared to the other.

We can look out from where we are sitting on a mixed garden, where there are Roses, Carnations, Phloxes, Delphiniums, Pæonies, and hundreds of varieties of hardy herbaceous plants, annuals, &c., that, so far as we are concerned, we would not exchange for any amount of tender parterre gardening; but, for all that, we do not condemn it in its proper place. Let them both live. The one is a splendid relief to the other. All who want a never-failing source of interest and a richness of cut flowers should grow selections of hardy herbaceous plants; and all who have gardens, large or small, in damp localities, where late and early frosts prevail, should by all means let the hardy style of gardening prevail. It yields by far the greatest amount of beauty and satisfaction. In such a climate the Phlox and the Delphinium and the whole varied train of hardy beauties luxuriate the most; and there are many, we fear, who

have but little idea of the splendour of such plants when well cultivated instead of being merely kept in existence. Those who think herbaceous plants do satisfactorily without high cultivation labour under a very great mistake. Indeed, in soils that are naturally poor, and where the climate is dry, their blooming is a mere flash in the pan, and they are mostly withered and gone by midsummer, unless, under such circumstances, the very highest culture is brought to bear on them. Deep trenching and heavy manuring, watering and mulching, are the price that must be paid for satisfactory results in this style of gardening, and the most shady (without being under trees) situations should be selected for the hardy garden, and selections of plants to suit different soils and climates is also desirable.—(*The Gardener.*)

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

It is a good plan to look carefully over the wall trees early this month, and to see that no shoots are hanging loose from the walls. The whole garden looks untidy if the wall trees are not kept in good order. Peaches and Nectarines are either ripe or approaching to that stage, it is therefore desirable that no water should be applied to the trees by the syringe or garden engine. All insect pests ought to have been destroyed long before this time. See that the leaves are not allowed to shade the fruit from the sun: it is better to cut half of a leaf off, if that will be sufficient to expose the fruit, than to wrench it off carelessly. Those who have paid attention to Peaches will have noticed that if a leaf is allowed to overshadow any of the fruit until it is ripe, the mark of the leaf will be noticed on the fruit. Earwigs have been very destructive to Nectarines; the woolly coating of the Peach seems to be distasteful to them, but it is possible that they might attack the Peach if no other fruit could be had. The best way to capture and destroy them is to place Bean stalks cut into 6-inch lengths near where they feed, they retire into them by day and may easily be blown out and destroyed.

Vines on walls out of doors ought not to be neglected at this season; if there is not a large crop of fruit on them, much lateral growth is made, which should be pinched back before it is necessary to use the knife. It is not well to allow the Vines to make considerable growth and then to cut it off in armfuls or barrow-loads. The fruit of Royal Muscadine or Sweetwater may be exposed to the sun, but Black Cluster or any other similar variety colours better if the bunches are partially shaded by the leaves. When the fruit of black Grapes is too much exposed to the sun it is more liable to scald than the white sorts. We have seen many bunches of Black Hamburgh Grapes out of doors this year quite destroyed in that way. White Sweetwaters on the same wall have not been injured. It is interesting to note the effects that the sun has upon different varieties of Grapes. It seems that white varieties do not suffer injury so much as black, and none of the black varieties colour well if fully exposed to the sun. The tendency of Lady Downe's to scald is well known, but its white counterpart does not scald under the same treatment. All the leading growths should be nailed to the wall, and the main leaves should be well exposed to the sun. If wasps and flies make a raid on the ripening fruit they will utterly destroy it if they are not prevented; about the best plan is to place the bunches in gauze bags. The fruit must be occasionally examined, as it is more liable to decay in the bags than when it is open to the weather.

There is a fair crop in some districts of Pears and Plums on the walls. The latter are also very frequently a prey to wasps and bluebottle flies, especially such sorts as Green Gage, Jefferson, and Coe's Golden Drop. The only effectual way to save the fruit is to cover some of the finer specimens with gauze. Pears should be gathered at different times to keep up a succession as long as possible. Williams's Bon Chrétien is a very fine Pear that has become well established in popular favour, but it has a formidable rival in Souvenir du Congrès, evidently a seedling from it. The new variety seems to keep rather better, is larger in size, and has not so much of the musky aroma that is found in Williams's. It is also a very free-bearing variety. Another new Pear, Madame Treve, succeeds the above, and does equally well as a wall or orchard-house tree, and is a very free bearer. Mr. Rivers recommended this variety as being very high-coloured on the exposed side, but it has not been so with us, it is not even so highly coloured as Louise Bonne of Jersey. It is best to gather a portion of all these early Pears before they are ripe, and make another gathering in a week, and yet another about a week later. If it is intended to plant any fruit trees during the ensuing winter the ground ought to be prepared now. It ought to be trenched up to a good depth, and if poor some decayed manure ought to be added.

Our Strawberry plants have been planted long ago, and are

now strong plants. Those who intend to plant and have not commenced should do so without any delay, so that the young runners may become established before the winter. All the young runners should now be out away from the old plants. Some rich manure may then be applied to the surface and be forked-in, taking care not to injure the roots.

#### VINERIES.

We shall do nothing more to the early vineries until the time comes to prune the Vines. All the ventilators and doors are open night and day; and the weather so far is cool with little sun by day. The leaves have been thoroughly washed with the garden engine to destroy red spider. The Grapes are not yet ripe in either of the late vineries, and if cold weather continues it will be necessary to apply artificial heat to ripen them off. Except when the vineries are being fumigated it is better to have the ventilators open a little both at front and back. Even in cold weather a small chink of air causes a circulation.

Some of our friends have told us that red spider seldom attacks their Vines; but we generally find they are those who have both climate and soil in their favour. A moist climate and good deep clayey soil is not favourable to the existence of red spider. We have it in both the late houses, and have tried the hot-shovel-and-sulphur method of destroying it. The method has been well tried, but so far we do not think it so effectual as our old method of heating the hot-water pipes to a high degree and painting them thickly. The advantage of painting the pipes seems to be that the suffocating atmosphere is kept up for a longer period—twelve hours at least; whereas by heating the shovels and filling the house with sulphur fumes to as great an extent as the Vines will bear, the spider is not kept in the deleterious atmosphere nearly so long. There are still many good gardeners who doubt the efficacy of sulphur fumes to destroy red spider. Our own experience tells us that they have not given it a fair trial.

Vines in pots for early forcing should be undergoing the period of rest. They ought not to be fully exposed to wind and rain after this, but should be pruned and placed under glass where there is free ventilation, and the soil ought to be watered occasionally to prevent it from drying too much.

#### PLANT STOVE AND ORCHID HOUSES.

There is great danger of stove plants being injured by too much shade in September. It is not yet time to remove the shading altogether, but it never ought to be used unless it is actually required, and that is at the hottest part of the day and during bright sunshine. There are some plants which would be injured if they were not shaded; others suffer if the shading is put over them. If possible *Stephanotis floribunda* ought to be fully exposed to the sun; if it is not it will not flower abundantly next season. The young growths ought not to be too closely trained together. *Clerodendron Balfourianum* is one of the easiest grown and most useful of stove climbers. It is also as easily propagated as a *Verbena*. Our plants are making very strong growth, and they are encouraged to do so by liberal supplies of water. By resting the plants at different periods a succession of flowers of *Gardenia florida* can be obtained. This useful plant will stand a greater degree of cold than many gardeners imagine. We have had plants go through the ordeal of 3° or 4° of frost and not be materially injured. They are very liable to be attacked by the mealy bug. Strong soapy water applied with a sponge, and keeping the plants in as low a temperature as they will bear, soon rids them of all insect pests. When growing the plants require to be freely syringed. Much pot room is unnecessary, as they grow and flower freely in pots that would be thought small for the size of the plants. See that all climbing plants are kept within bounds, and all flowering specimens near the glass, and to be kept free from all insect pests.

The same treatment is necessary with Orchids. A large proportion of them ought to be freely exposed to the sun after this time. *Cattleyas*, *Lælias*, *Dendrobiums*, and some of the Mexican species of *Odontoglossums* are all benefited by free exposure. *Phalenopsis grandiflora* and *P. amabilis* are injured if the sun acts upon the leaves as yet; nor do many of the *Aërides*, *Vandas*, and *Saccolabiums* bear much sun upon the foliage with impunity. The best plan is to place all plants that yet require shade at one end of the house, and those which it is not necessary to shade at the other end. All the *Calanthes* are making vigorous growth; *C. veratrifolia* showed by the thick succulent roots it was making close to the surface that now is the proper time to repot; this was done, using good yellow loam, with a little decayed stable manure and sharp sand. This species and *C. masuca grandiflora* are very useful for flowering during the early summer months, they last such a long time in beauty. We have had spikes of *C. veratrifolia* last for very nearly three months. Some few Orchids that are grown in the coolest houses like exposure to the sun after this time; amongst them may be named *Cattleya citrina*, *C. autumnalis*, *Lælia majalis*, and other Mexican species; but the alpine species from the high mountains of Peru and New Grenada still require shade, notably *Odontoglossums* of sorts, including *O. crispum*, *O. triumphans*,

*O. Andersonianum*, *O. gloriosum*, &c., also most of the *Masdevallias*. Where so many plants requiring diverse treatment are crowded into one house it is almost impossible to do all of them justice. *Odontoglossums* and *Masdevallias* require a good supply of water at the roots; *Cattleyas* and *Lælias* not so much.

#### FLOWER GARDEN.

The bedding plants were much checked by the drought, and we were later than usual in putting in the cuttings of Zonal *Pelargoniums*; this has now been done, placing the boxes on a sunny border out of doors. *Centaureas* have been put into a cold frame, and the lights are kept close until the cuttings strike root.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

William Bull, King's Road, Chelsea, London, S.W.—*Retail List of Bulbs and Tuberous-rooted Plants*.

Ireland & Thomson, 20A, Waterloo Place, Edinburgh.—*Descriptive Catalogue of Dutch and French Bulbous Roots, &c.*

William Rumeey, Joyning's Nurseries, Waltham Cross, N.—*List of Roses, Ornamental Trees and Shrubs, Bulbs, &c.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

DUNDEE (International). September 7th, 8th, and 9th. Mr. W. R. McKelvie, 26, Euclid Crescent, Sec.

GLASGOW. September 12th and 13th. Mr. F. Gibb, Doughall, 167, Canning Street, Sec.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY. September 18th.

RYLMARNOCK. September 14th. Mr. M. Smith, 11, King Street, Sec.

IPSWICH. September 17th. Sec., Mr. W. B. Jeffries, Henley Road, Ipswich.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W.

Gutteridge, 51, Denmark Road, Northampton, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

LANCELOT BROWN (W. D.).—His portrait will appear in our columns in due course.

FLORAL DEVICE (J. C.).—It is a figure, such as a star or crown, formed of flowers.

WYCH ELM (A. J. H.).—It seems to have been so called because its wood was especially used for making chests, which were called *wyches*. The spelling of "wych" is a corruption.

BEDDING GERANIUMS (N. C.).—There is only one Geranium likely to surpass Indian Yellow of the same tint of colour, and that is *Jealousy*, which is more decidedly yellow, and is equally floriferous. *Venus* is still one of the best scarlet bedders, and splendid in this colour is *Corsair*. Rev. T. F. Fenn is one of the best crimson bedders, Edward Sutton also being superior. Mrs. Turner and *Amaranth* (pink) make excellent beds. Madame Vaucher is still the best white variety for bedding purposes.

VINES OVER-LUXURIANT (*Somerset*).—Since seeing the plan we do not advise your cutting a trench by the side of the wall, at least the wall of the house; but you may well do so at the extremity of the border if the Vines are very gross. Remove the surface soil as previously advised, take out Vines Nos. 2 and 4, train a young shoot from the base of No. 1 horizontally until it reaches the next rafter, up which train it; from this rod you may if you choose take still another cane, and train it up in the place of No. 3, bending the latter to occupy the place of No. 4, which remove; you will then have three rods of Black Hamburgh and one of Foster's White Seedling, and will obtain more and better Grapes than by your present plan. Wrap the exposed stems with hay bands.

STOPPING CHRYSANTHEMUMS (F. B.).—Plants which have been stopped early in July will flower perfectly if they are properly cultivated—i.e., if they receive no checks by drought, mildew, or insects.

PRESERVING BEDDING PLANTS (*An Old Friend*).—Your Tricolor Geraniums should be potted, and if a little soil adheres to the roots all the better, although the pots used should be as small as possible consistent with holding the roots. The plants should not be cut down, but a portion of the large leaves should be removed, which will assist the shoots to harden. The plants may be cut down in spring if required, making their tops into cuttings, which strike freely at that time in gentle heat. Zonals may be cut down in the autumn if the old plants are required to be preserved in a dwarf state. You may take up the *Lobellias* and divide the plants, placing them in small tufts in pots and boxes, but only the plants which are making fresh growth from the base, the flowering parts being cut away. *Alternantheras* may be treated in much the same way, but require more heat than *Lobellias*. *Mesembryanthemums* are best preserved by striking the cuttings, which root freely at the present time in gritty soil. They should be placed in gentle heat. *Verbenas* do not succeed well when potted from the ground, hence the

advice which you have quoted. Cuttings selected from shoots which have not flowered strike readily and make good plants. It is not necessary to cut round the roots of *Geraniums* for some time before taking them up. An excellent selection of *Geraniums* may be found in the Journal for last week, on page 186.

**JUSTITIA UNHEALTHY** (*J. Mark*).—The leaf sent us is infested with the scale (*Coccus testudo*). It may be destroyed by a solution of soft soap, 4 ozs. to a gallon of water, with the addition of a wineglassful of spirits of turpentine, and applied to the parts infested with a brush or sponge; or the plant may be syringed with the solution, taking care to wet the under side of the leaves where the insects will be principally located. We prefer to apply the mixture with a brush and sponge, and afterwards syringe with water at a temperature of 120°. The turpentine should be mixed with the soap in a little boiling water, then add the remaining quantity of water, applying at a temperature not exceeding 120°.

**STORE-ROOM FOR APPLES AND PEARS** (*J. P., jun.*).—You could not have a better aspect than north-west—that is, failing a due north aspect. A south-west aspect would not suit, as it would not afford such a cool and equable temperature as a north-west one. You will require light to facilitate storing and for examining the fruit from time to time. We should have a light in the roof sufficiently large as to light the room thoroughly, and that should be provided with shutters to exclude light when needed. Ventilation will be needed, and a moderate provision for this will suffice. We should arrange the shelving along the sides, with the pathway up the centre, forming the shelves of laths about three-quarters of an inch apart, the laths an inch thick by 1½ wide. The shelves should be about 18 inches apart. In addition to wooden shutters for the window and ventilators you will need straw shutters in severe weather over those openings, it being desirable to employ as little fire heat as possible. We have hot-water pipes in a flue, and let out the heat as required by sliding ventilators. The lower the temperature the better will it be for preserving the fruit, provided that frost is excluded.

**FUCHSIA LEAVES FALLING** (*E. R.*).—The leaves sent are, or rather have been, infested with red spider, which has destroyed their tissues and is the cause of the leaves falling. It may be destroyed by syringing the plants with a solution of soft soap 2 ozs. to a gallon of water, and could have been prevented by syringing in the evening moderately in dry hot weather.

**MELONS FAILING** (*N. N.*).—We do not see that your failure is attributable to any cause except that of a too dry atmosphere, which has induced red spider. The border ought not to be dry when the fruit is setting, and the atmosphere, though moderate dryness is desirable, should not be devoid of moisture. In dry hot weather we do not hesitate to syringe Melons lightly in the morning when in flower, and in a heated house, the chief points being to maintain a brisk heat, especially bottom heat, with thorough moisture at the roots, to impregnate the flowers, and leave on a little air at night as well as by day to prevent a close stagnant atmosphere. It is only when the Melons are ripening that dryness of the soil and atmosphere are needed. There is no reason why you should not grow either Cucumbers or Melons, the latter in summer if you wish, and the former in winter, without any fear of red spider.

**PRUNING NEGLECTED PEACH TREES** (*G. R.*).—The long shoots with laterals upon them we should cut back at once to where the shoots have eyes at the base of the laterals, removing the laterals close to whence they proceed, or if the shoot has no buds at the base of the laterals, cut back the shoots below the laterals. All forerights cut clean away to whence they issue. Your unfruitful Noblesse we should lift in November, or so soon as the leaves have fallen, take out a trench so far distant from the stem equal to the spread of the branches, cutting off all roots beyond the trench, and after lifting replant with the ball entire, and keeping a little higher than before, but avoid burying any portion of stem previously covered with soil. Make very firm about and over the roots, and mulch with littery manure. In spring thin-out the grossest wood especially if crowded, and with a season's growth you will, no doubt, have promise by the presence of bloom buds of a crop in the succeeding year.

**CHANGING VINES** (*W. M. G.*).—We should transfer Foster's Seedling from the late to the early house, it being an improvement on Royal Muscadine; but the others are so good that we know not which to advise you to displace. However, as Madresfield Court in the early house cracks we should transfer it to the late house. Your arrangement in neither house is good. Muscat of Alexandria in an early house with Hamburgs is not good, and Hamburgs in the late house are undesirable, as the Hamburgs in either case will be ripe before the others have well begun to colour. The object in your case has no doubt been to afford successional fruit over a lengthened period, and in that respect could not be better. Escholata is a confused name which may mean anything. Muscat Escholata is Muscat of Alexandria; Escholata, or an early Grape under that name, is Marchioness of Hastings; and another form of Escholata has splendid foliage and strong wood—this we have in an early house, ripening three weeks after Muscat of Alexandria and six weeks behind Black Hamburg. It is a shy bearer except it be pruned long, and is not distinguishable from Trebbiano, a late Grape, only in having more pointed berries. We should work your Escholata with Lady Downe's, which will hang much longer. Trebbiano to keep well requires to be kept rather warm and dry.

**ALOE UNHEALTHY** (*A. D.*).—The plants from your description are beyond recovery; they have probably been injured by frost last winter. We can only advise you to remove them to a greenhouse, assigning them a light airy position, seeing that the drainage is good and keeping rather dry. They should be kept from frost, but we apprehend that the plants are dead or nearly so.

**BIRDS TAME IN GARDEN** (*J. C.*).—Any bird that has one wing cut to prevent its flying away will gradually become tame. Even feeding them regularly and carefully avoiding frightening them will render them sociable. We saw a blackbird sitting on her nest in Mr. Webb's garden near Reading that was not at all disturbed by being closely looked at.

**APPLES** (*Mrs. Bracebridge*).—The Summer Golden Pippin can be obtained of any nurseryman. We do not know the Noble Candle, at least not by that name. "NORTHERN GARDENER" is not in the trade.

**FERNS** (*E. Dervent*).—Send specimens with spores on them; we cannot name them without.

**SCARBOROUGH LILY AFTER FLOWERING** (*Maria*).—The bulbs of this, *Vallota purpurea*, keep in a light airy position, and report between now and February, giving them a pot no more than 1½ or 2 inches larger, providing good drainage and removing the soil that comes away freely from amongst the roots, using a compost three parts fibrous loam, and one part leaf soil or

old dry cow dung, and a sixth of sharp sand. In potting do not remove the offsets, but let all grow together. They do not interfere with the larger bulbs, and in time they will flower. If you wish for more plants, then, of course, you will remove the offsets and put them singly in small pots.

**PLANTING FOR TIMBER** (*W. H. C.*).—We will answer your queries next week. A book such as you require is "The Forester," by James Brown, published by Messrs. Blackwood.

**COLEUSES FOR EXHIBITION** (*J. R.*).—The Coleuses which are ordinarily cultivated for their ornamental foliage are stove plants, and as such they should be judged at exhibitions.

**DRAINING A WALK** (*An Irish Subscriber*).—We make small cuttings in the grass at the sides and conduct to a drain with cesspools. It is important to catch the water before it accumulates to form a run strong enough to wash up the gravel. This may be rather costly, but is a much cheaper plan in the end than makeshifts. The cesspools have dish-cover stones, with grates let in to keep out anything larger than a quarter of an inch. The peaty bottom of a lake would not be a good dressing for an old kitchen garden, but formed into compost by an addition of a sixth of fresh unslaked lime, and laid up for three or four months, and turned over midway of the time, it would be a good application. Lilium bulbs will last any number of years in a favourable soil and under proper treatment.

**HARDINESS OF GNAPHALIUM LANATUM, &c.** (*Mrs. Forbes*).—It requires to be wintered in a house or pit kept rather dry and safe from frost. *Anemone japonica alba* and *Primula japonica* are both quite hardy, but both are benefited by a light mulching around the roots and up to the crowns with leaf soil or other light compost. All bedding plants would succeed in your soil were it well manured and liberally watered in dry weather, except such moisture-loving subjects as *Calceolarias* and *Violas*. Hardy edging plants that would succeed are *Antennaria tomentosa*, silvery, very dwarf; *Santolina incana*, silvery; *Arabis alpina variegata aurea*, yellow variegation; *Aubrietia purpurea variegata*, white variegation; *Econymus radicans variegata*, white variegation; *Thymus variegata*, white variegation; *T. citrifolia aurea marginata*, yellow variegation; *Sempervivum californicum*, and Golden Feather *Pyrethrum*.

**SKELETONISING LEAVES** (*A. B. C.*).—Nearly all leaves may be skeletonised, but some require a longer time than others to become macerated. For instance, the seed vessels of the Winter Cherry, Henbane, and Poppy require a fortnight or three weeks if the weather be hot. Leaves of *Ficus elastica* (*Indiarubber Plant*) and *Magnolia grandiflora* require several months; leaves of the Tulip Tree, Poplar, and Maple a fortnight; leaves of the Holly and Ivy two or three weeks. Ferns require a long time, and so do the leaves of Beggars' Broom, Butchers' Broom, the Orange, Lemon, and Camellia. Great care must be taken in choosing the leaves, as the smallest speck spoils one. Many more should be placed in the water than are needed, as not more than one in twenty will be perfect. The time required depends on the weather. Beginners examine them too soon. The leaves should be put into soft water in a sunny situation, taking care that they are covered with water. Evergreen leaves may be skeletonised at any time, but deciduous leaves not before the end of June or beginning of July. Seed vessels must be operated upon when nearly ripe. When quite ready for skeletonising put the leaves into boiling water to remove the offensive smell. Remove the scum from the water. Brush off the pulp with a rather hard brush. If the leaves are tender bump them gently, which removes the pulp without disturbing the nerves of the leaves. Pour clean water over them until quite clean; put them on blotting paper to dry—a piece of glass is useful to brush them on. Tender leaves should be floated in water and caught on a card, as are fine Seaweeds. Bleach with chloride of lime and then wash them thoroughly with clean water, otherwise they become yellow. It is better not to bleach them until required for setting up. Thistles and Teazles look well when bleached, and aid much in arranging a group. The plant bearing the red berry is *Physalis edulis*, the Cape Gooseberry.

**FORMING A BED OF HEATHER** (*Edw. Wheeler*).—The best plan is to provide the proper soil—i.e., peat, though Heather will succeed in all soils, except, perhaps, limestone. Part off the Heather when but a few inches high, the dwarfier the better, securing about 3 inches thickness of soil, and either plant in clumps of about 9 inches square with that distance between each, or place them together as in turfing with grass turves, making firm. We have some which were made in both ways a few years ago, interspersing the larger clumps with double Gorse, which were masses of golden blossom in spring, and the Heather is now aglow with rosy purple.

**JARGONELLE PEAR UNFRUITFUL** (*Idem*).—It may arise from too close pruning, the bloom buds not unfrequently being terminal on shoots 6 or more inches long, but those you may distinguish now. They should be retained. The root-pruning must have been insufficient. We should again resort to it in autumn, allowing the trees to extend if you can.

**INSECTS ON APPLE TREES** (*Idem*).—The specimen leaf shows the trees to have been infested with aphid, the skeleton of one remaining, and the appearance of the leaf is a consequence of the aphides covering the upper surface of the leaves with a sweet glutinous substance resembling if not identical with honeydew, and forming a nidus for the fungus, with which the leaves are now covered. Syringe the trees now with a solution of soft soap, 2 ozs. to the gallon of water; and if this had been applied upon the appearance of the aphid, it being most prevalent on the under side of the leaves, and repeated occasionally, the leaves would not have been in their present state. The syringing with the soapy solution should be followed by a thorough washing with the garden engine to cleanse the foliage of the obstruction caused by the fungus.

**DESTROYING WIREWORM** (*David Sykes*).—It is a difficult pest to deal with. Nitrate of soda is good against wireworm and other vermin especially elugs, applying it at the rate of 1 lb. per rod, 804 square yards; but a more effectual mode of riddance is by a dressing of gas lime pointed in with a fork at the rate of twenty bushels per acre, or half a peck per rod. It should be applied in spring at the time of planting or sowing.

**INSECTS IN VINERY** (*West York*).—Thrips may be destroyed by fumigating with tobacco smoke, but the smoke will not kill red spider. See Mr. Douglas's remarks on destroying this pest in this week's "Doings."

**FERN** (*G. McD.*).—It appears to be a variety of *Cystopteris fragilis*, and is very elegant and graceful.

**NAMES OF PLANTS** (*H. S. H.*).—It appears to be *Funkia subcordata*; but we cannot name plants from leaves only. (*G. McG.*)—1, Bog Pimpernel (*Anagallis tenella*); 2, *Atriplex hortensis*. (*Caroline*).—You are quite right, it is the wild Guelder Rose (*Viburnum opulus*). (*Constant Reader*).—1, *Heterocentron roseum*; 4, *Centrostemma multiflora*; 6, *Bou-*

gainvillea spectabilis. We cannot name florists' Begonias, or specimens without flowers. (J. A.).—1, Rumex conglomeratus; 2, Triglochin palustre; 3, Senecio sylvaticus. (J. W.).—Chrysanthemum foniculaceum or C. frutescens. (M. H. R.).—Achillea ptarmica (double-flowered var.). We cannot name the Davallia without fruit. (E. C.).—Your letter reached us ten days after date, and the plant was quite unrecognisable.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### WEYMOUTH POULTRY SHOW.

UNDER favourable auspices this Show was held on the two last days of August. The place of exhibition was the Market House, which the Committee made extremely attractive with flags and banners and pots of hothouse plants. Every here and there, too, among the cages were bouquets of bright flowers, which made the effect very pleasing. The Secretary and Committee worked cheerfully and seemed very anxious for everyone's welfare. We venture to think that this will become a leading Show. Mr. Hewitt judged the poultry, Mr. P. H. Jones the Pigeons, and Mr. Billett the Cage Birds. In many classes the competition was small, but the quality was of a high standard throughout.

Four classes of *Dorkings* came first in the catalogue. A very fine pair of Darks were first in the coloured adults. The hens were large and good in colour, the cock promises to come out of his moult a very large bird. We did not like the second pen quite so well as the third, but neither were in very good looks. In chickens the winners won easily, and they were a very large and well-grown pair. In Silvers the first also took the cup. The cock in this pen is of very beautiful colour and of immense frame. A good pen of Silvers took first in chickens, and the second were almost as good, the third smaller but much younger. In *Cochins* the first adult Partridges were very large; the cock has peculiarly smart hackles, and was in fine condition. Buff chickens were also good. The cup pen contained a charming pullet good in colour and neat in head. Variety *Cochins* brought several good cocks, but the hens mostly ragged and untidy. In chickens the first were not good in colour and must have been very early hatched. The second were very white and well feathered but much younger. Third went to pretty Blacks. In Dark *Brahmas* the cup hen was huge and wonderfully fluffed, though rather brown. In chickens the pullet was very clear in markings, but we did not quite like the cockerel's comb, still they were well first. In adult Light *Brahmas* the first and second seemed very equal in merits; the second cock, perhaps, the larger, but the first more compact in shape. In chickens the first pullet was very neat in head and shape. In *Game* the cup went to stylish Black Red chickens, the cockerel being a well-shaped bird. *Hamburgs* were a fair collection. A pen of Golden-pencilled chickens won first-and-cup. The adult Blacks were very lustrous and good. In White *Leghorn* chickens the prize birds were not quite white enough in ears or quite large enough for our taste. We fancied we noticed a hen in Mr. Fowler's pen of chickens, and a cockerel in his pen of adults. *Polands* were extremely good. In the class for old birds a good pen of Golds won the first prize, and Blacks second. The hen in the latter pen very good indeed. In chickens a very smart pen of Blacks were first, and a capital pen of same colour second. These were more forward than the first. Very good Silvers were third, the pullet's crest well laced. *Malay* chickens were very fine and as good a class, we thought, as any of the chicken lots. The first were very large and won the section cup. The cockerel seems to have, too, plenty of growth in him yet. In Black *Spanish* a good pen of adults (Allsopp) were rightly passed, the cock having had his comb unmistakably out. In chickens a fairly good pen were first, but not either of the Oundle pairs we are told. In *French* the cup went to good old Crêves. The second were also good, but the hen's crest had a good deal of white in it. In the Variety class a large pen of La Flèche were first, and good Silkie second.

In *Bantams* the classification was not good, and Piles and Duckwings had to go to the Variety class. The winners in Brown Reds were pretty, the third cockerel undubbed. In the Variety class Black-booted won first, and White-booted second, both good of their colour. The Selling classes were only fair; the first Buff pullets perhaps the best in the collection. We were sorry to find no Duck classes, for there was space in the hall for both them and Geese.

The *Pigeons* were not very large classes. There was a point cup which was won by Mr. Yardley with eighty-four points, Mr. Vander Meersch coming second. Carriers were not superior, the first Black cock being the best bird by far. In Pouters a good White hen won in her class. Blue Dragons were extremely good, the first and second cocks being well selected in a difficult class. In Variety hens a pretty White was second. We believe Mr. Wood's birds did not arrive until after the judging. The first Almond Tumblers matched very fairly. All the Antwerps were in one class, and this really is not fair to judge or exhibitor. In Nuns the first were very good. The

black in front came down a little too low for our taste, but the colour was bright. In Turbitts the first were Blues and the second Yellows. Fantails made a small class, but the pens were too small for them, and did not show them to advantage. In Jacobins the first were Reds. We thought, as did several others, that they had been rather "set in order." In the Variety class very pretty Frillbacks were first and Ice Pigeons second. Mrs. Drummond won an extra prize in this class with a pair of Crown Pigeons from New Guinea. They were extremely handsome, and when the sun shone upon them their colours were simply gorgeous. Their crowns are certainly very striking, looking as if made of shreds of purple-blue tarlatan. In the Selling class a nice pair of Archangels won first.

In the *Birds* Mrs. Drummond was very successful, her Ticked Belgian being very good and showing himself to great advantage, not being in the least shy. A gorgeous foreign Starling winning easily first in his class. The Parrots were very fair. A very pretty White Cockatoo we noticed on a looking-glass stand, but it was ticketed "Too late for competition." The following are the awards of the Judges:—

**POULTRY.—DORKINGS.—Coloured.**—1, T. C. Burnell. 2, G. Watson. 3, Mrs. C. J. Radclyffe. *Chickens*.—1, T. C. Burnell. 2, R. Cheeseman. 3, S. Newick. *Any other variety*.—1 and Cup, O. E. Cresswell. 2, Miss E. Neville. 3, J. Jesty. *Chickens*.—1 and 2, T. C. Burnell. 3, O. E. Cresswell. **COCHINS.—Partridge.**—1, H. Tomlinson. 2, J. Carré. 3, H. S. Hansford. *Chickens*.—2, Mrs. C. J. Radclyffe. *Cinnamon and Buff*.—1, H. Tomlinson. 2, S. R. Harris. 3, Mrs. C. J. Radclyffe. *Chickens*.—1 and Cup, Rev. G. F. Hodgson. 2, Miss C. Brooke. 3, —Leys. *Any other variety*.—1, Mrs. W. C. Drummond. 2, A. Darby. 3, Mrs. J. T. Holmes. *Chickens*.—1, S. R. Harris. 2, Rev. R. S. Woodgate. *Major. BRAHMAS.—Dark*.—1, Cup, and 3, Mrs. C. J. Radclyffe. 2, J. F. Smith. *Chickens*.—1, E. Fritchard. 2, H. Feast. 3, Mrs. C. J. Radclyffe. *Light*.—Mrs. W. C. Drummond. 2, Mrs. J. T. Holmes. 3, J. Turner. *Chickens*.—1, J. Turner. 2, F. C. Mace. 3, H. Stevens. **GAME.—Black-breasted Red**.—1, J. Mason. *Chickens*.—1 and Cup, J. Westacott. 2, G. Fitz-Herbert. 3, C. Martin. *Any other variety*.—1 and 2, P. J. Chelfins. 3, T. D. R. Rawlings. **HAMBURGS.—Gold and Silver-pencilled**.—1, W. Ticker. 2, H. Feast. 3, J. Long. *Chickens*.—1 and Cup, J. P. Calcutt. 2, J. Long. 3, A. Morris. *Gold and Silver-spangled*.—1, L. Legg. 2, E. Jones. 3, H. Feast. **CHICKENS.—Eggs.**—1, J. Long. 2, J. G. Rowe. *Any other variety*.—1, C. F. Copeman. 2, J. Long. 3, H. Feast. *Chickens*.—2, J. Long. **LEGHORNS.—White**.—2, Miss Jacob. *Chickens*.—1, 2, and 3, E. C. Seaman. **POLANDS**.—1, E. Burnell. 2, T. Norwood. 3, J. Long. *Chickens*.—1, T. Norwood. 2, A. Darby. 3, J. Hinton. **MALAYS**.—1, Miss A. Brooke. 2, Rev. N. J. Ridley. *Chickens*.—1, Cup, and 2, T. Lecker. 3, W. L. Blake. **SPANISH.—Black**.—1, J. Palmer. 3, J. Newick. 3, Mrs. Allsopp. **HUNGARIS**.—1, G. Watson. *Chickens*.—1, J. Croote. 2, J. G. Rowe. **HOULDS**.—1, W. S. Thomas. 2, Rev. W. Pearce. 3, R. W. Turner. **CREVE.**—1 and Cup, P. J. Le Sueur. 2, E. Burrell. 3, S. A. Vickery. **FRENCH.**—OR ANY OTHER VARIETY.—1, Rev. N. J. Ridley. 2, Rev. R. S. Woodgate. 3, Mrs. J. T. Holmes. **BANTAMS.—Black-breasted Red**.—1, W. Baskerville. 2, F. C. Davis. 3, S. A. Vickery. *Brown-breasted*.—1, W. Baskerville. 2, F. C. Davis. 3, J. Long. *Any other variety*.—1 and Cup, Mrs. J. T. Holmes. 2, Rev. R. S. Woodgate. 3, G. C. Davis. **DORKINGS, BRAHMAS, AND COCHINS**.—1, S. Swinson. 2, Mrs. Allsopp. 3, Mrs. C. J. Radclyffe. *Chickens*.—1, Rev. G. F. Hodgson. 2, Mrs. Allsopp. 3, P. J. Le Sueur. **GAME, HAMBURGS, SPANISH, LEGHORNS, AND POLANDS**.—2, M. H. Devenish. **FRENCH, OR ANY OTHER VARIETY**.—1, A. Bigg.

**LOCAL PRIZES.—DORKINGS**.—3, J. Jesty. **COCHINS**.—1 and 2, —Leys. **BRAHMAS**.—1 and 3, —Leys. 2, J. G. Rowe. **SPANISH, MINORCAS, AND LEGHORNS**.—1, Local Cup, 2, and 3, E. C. Seaman. **GAME, HAMBURGS, AND ANY OTHER VARIETY**.—1, S. A. Vickery. 2 and 3, J. G. Rowe. **BEST HEN OR PULLET**.—1 and 2, R. Charles. **BANTAMS**.—1 and 3, S. A. Vickery. 2, T. E. Charles. **PIGEONS.—CARRIERS**.—1, H. Yardley. 2, A. A. Vander Meersch. **CARRIERS**.—1, H. Yardley. 2, H. S. Hansford. **POUTERS**.—1, A. A. Vander Meersch. 2, Mrs. J. T. Holmes. **POUTERS**.—1, Mrs. J. T. Holmes. 2, A. A. Vander Meersch. **DRAGONS.—Blue**.—1, R. Leach. 2, Rev. G. F. Hodgson. **DRAGONS**.—1, J. Andrews. 2, W. Osmond. **DRAGONS.—Any other colour**.—1 and 2, W. Osmond. **DRAGONS**.—1, A. A. Vander Meersch. 2, H. S. Hansford. **TUMBLERS**.—1, A. A. Vander Meersch. 2, H. Yardley. **TUMBLERS.—Almond**.—1, H. Yardley. 2, A. A. Vander Meersch. **ANTWERPS**.—1 and 2, G. W. Meadus. 3, H. Yardley. **OWLS**.—1, H. Yardley. 2, H. S. Hansford. **NUNS**.—1, Miss A. Brooke. 2, H. Yardley. **TURBITTS**.—1, G. H. Gregory. 2, O. E. Cresswell. **FANTAILS**.—1, Miss Dickenson. 2, J. F. Loversidge. **JACOBINS**.—1, A. A. Vander Meersch. 2, J. Andrews. **TAMPETERS**.—1, C. J. Woodford. 2, H. Yardley. **ANY OTHER VARIETY**.—1, G. H. Gregory. 2, H. Yardley. **Extra prize, Mrs. Drummond.** **SELLING CLASS**.—1, J. Andrews. 2, A. A. Vander Meersch. 3, T. E. Charles. **Point cup, H. Yardley.**

**CAGE BIRDS.—CANARIES.—Belgian**.—1, Mrs. W. C. Drummond. 2, F. Fairry. *Norwich*.—1, Miss L. H. Northcote. 2, J. S. Ham. **MULES**.—1, S. Cook. **ENGLISH AND FOREIGN BIRDS**.—1, S. Cook. **ENGLISH AND FOREIGN BIRDS**.—1, Mrs. W. C. Drummond. 2, S. Cook. **ENGLISH AND FOREIGN BIRDS**.—1, Mrs. W. C. Drummond. 2, Dr. Scriven. **ENGLISH AND FOREIGN BIRDS**.—1, W. Legg. 2, Miss N. Atkins. **ENGLISH AND FOREIGN BIRDS**.—1, R. Scriggins. 2, W. Gibbons. **SELLING CLASS**.—1, Miss S. H. Northcote. 2, Mrs. W. C. Drummond.

**LOCAL PRIZES.**—CANARIES, GOLDFINCHES, OR ANY OTHER ENGLISH OR VARIETY.—1, J. A. Hinds. 2, W. Legg. **PARROTS, PARAKEETS, AND COCKATOOS**.—1, W. Legg. 2, R. Scriggins.

### BINGLEY SHOW OF POULTRY, &c.

The tenth annual Show was held in the Myrtle Park, Bingley, on the 29th ult. The following is a list of awards:—

**POULTRY.—GAME.—Black or Brown Red.—Cockerel**.—1, T. Dyson. 2, J. Spencer. 3, E. Lund. *Pullet*.—1, T. Dyson. 2, E. Lund. 3, H. Fortane. *Any other variety.—Cockerel*.—2, T. Dyson. 3, J. A. & H. H. Staveley. *Pullet*.—1, H. C. & W. J. Mason. 2, J. A. & H. H. Staveley. 3, M. Jowett. **COCHINS.—Buff.—1, Mrs. A. Findall. 2, C. Sidgwick. 3, G. H. Proctor. *Any other colour*.—1 and 3, C. Sidgwick. 2, R. P. Percival. **BRAHMAS.—Dark**.—1, R. P. Percival. 2, E. Fritchard. *Light*.—1, G. C. Breeze. 2, R. P. Percival. 3, M. Hyatt. **SPANISH**.—1, J. NEWTON. 2, J. Roberts. 3, J. Thresh. **DORKINGS**.—1 and 2, T. Briden. 3, R. H. Felton. **POLANDS**.—1, W. Harvey. 2, H. Bowker. 3, J. Fearney. **FRENCH**.—1, G. W. Hibbert. 2, J. E. Clayton. 3, F. H. Stericker. **HAMBURGS.—Gold-spangled**.—1, G. J. Duckworth. 2, W. Driver. 3, T. Dean. *Silver-spangled*.—1, H. Pickles. 2, J. Fawcett. 3, O. Paley. *Gold-pencilled*.—1, G. J. Duckworth. 2, W. Anderson. 3, W. Clayton. *Silver-pencilled*.—1, J. Smith. 2, H. Smith. 3, G. J. Duckworth. *Black*.—1 and 2, C. Sidgwick. 3, J. Jaggard. *Any variety*.—1, G. J. Duckworth. 2, E. Gill. 3, J. Preston. **BANTAMS.—Game**.—1, W. Shaw. 2, W. H. Robinson. 3, A. S. Sugden. *Any other variety*.—1, C. J. Illingworth. 2, W. H. Shackleton. 3, F. Beandlan. **SELLING CLASS.—Cock**.—1, J. Berry. 2, J. Sharp. 3, S. W. Hallam. *Hens or Pullets*.—1, S. Lucas. 2, G. Moore. 3, C. Carr. **PIGEONS.—CARRIERS.—Cock.—Cup and 2, R. Fulton. 3, H. Yardley. *Hen*,****



—1, R. Fulton. 2, C. G. Cave. 3, W. H. A. Miller. *Young*.—1, R. Fulton. 2, W. H. A. Miller. 3, C. G. Cave. *POUTERS*.—*Cock*.—Cap, R. Fulton. 2, H. Pratt. 3, E. A. Thornton. *Hen*.—1, R. Fulton. 2 and 3, H. Pratt. *Tumblers*.—*Almond*, *Short-faced*.—Cup and R. Fulton. 2, R. Cant. *Any other variety*, *Short-faced*.—1 and 2, R. Fulton. 3, J. Cargill. *Long-faced*.—1, J. Cargill. 2, W. Ellis. 3, E. Woods. *Barbs*.—1 and 2, R. Fulton. 3, H. Yardley. *Owls*.—*English*.—Cup, R. Fulton. 2, W. Ward. 3, E. Lee. *JACOBSINS*.—*Red or Yellow*.—1, W. Dugdale. 2, E. E. M. Roys. 3, R. Fulton. *Any other colour*.—Cup and 3, R. Fulton. 2, E. E. M. Roys. *DRAGONS*.—*Blue or Silver*.—Cup, R. Woods. 2 and 3, W. Smith. *Any other colour*.—1 and 3, R. Woods. 2, J. Eeroyd. *Young*.—1, W. Smith. 2, R. Woods. 3, J. Ratcliffe. *FANTAILS*.—1 and 3, J. F. Loversidge. 2, J. Walker. *TURBITS*.—Cup, R. Fulton. 2, R. Woods. 3, E. A. Thornton. *ANY OTHER VARIETY EXCEPT ANTWERPS*.—1, G. Alderson. 2 and 3, R. Fulton. *SELLING CLASSES*.—*Single Bird*.—Cup, C. G. Cave. 2, E. A. Thornton. 3, E. Woods. *Pair*.—1, J. Thresh. 2, T. E. Hainsworth. 3, A. Byford. *ANTWERPS*.—*Short-faced*.—*Cock*.—1, 3, and *the* J. Eeroyd. 2, J. Wright. *Extra 2*, W. Harrison. *Hen*.—1, W. Harrison. 2, J. P. Rothwell. 3, J. Eeroyd. *Medium-faced*.—*Cock*.—1 and 3, J. Eeroyd. 2, J. J. Bradley. *Hen*.—1 and 3, W. Ellis. 2, J. Wright. *Long-faced*.—*Cock*.—Cup and 3, W. Ellis. 2, J. Lister. *Hen*.—1, B. Rawnsley. 2, W. Ellis. 3, J. Eeroyd. *the* H. Jennings. *Medium-faced*.—*Young*.—1, W. F. Entwistle. 2, J. Wright. 3, H. Jennings. *Medium-faced*.—*Young*.—1 and 2, W. Ellis. 3, J. Lister. *Long-faced*.—*Young*.—Cup, J. Lister. 2, B. Rawnsley. 3, W. Ellis. *Local Class*.—1, W. Lund. 2 and *the* J. Lister. 3, B. Rawnsley.

**JUDGES.**—*Poultry*: Mr. R. Teebay, Fulwood, Preston; Mr. J. Dixon, Clayton, Bradford. *Pigeons*: Mr. T. J. Charlton, Bradford; Mr. J. Crosland, Wakefield.

### TODMORDEN SHOW OF POULTRY, &c.

THE seventh annual Show was held on the 2nd inst. Most of the poultry were young birds. As we have remarked before, there seems to be a great dearth of good forward birds of this year, although some of good quality cropped up, as for instance the Brown Red Game and Messrs. Duckworth's grand Hamburgs, the pens of which have been well to the front.

In *Game* a pen of Black Red chickens won the cup, the next candidates being a nice pen of Duckwings. *Cochins* were grand in colour, but we have an impression of their being rather small and light in bone for the age. *Buffs* won in one class, and *Whites* in the other. *Hamburgs* a small entry; by far the best, considering the condition of the Gold-spangles, being the Silver-pencils and an exquisite pen of Blacks. *Bantams*, a good entry and the competition keen. In Reds were some of the best we ever saw brought together at this time of year, style, quality, colour, and feather being about perfect. Other than Reds two excellent pens of Piles won, and it was difficult to decide upon the merits of the two. Any other Bantams, the winners Blacks. One exquisite pen of Silver Sebrights would have occupied a position, but that the pullet has a yellow beak. In the Variety class first and second were Red Malays, and to the first pen was awarded the cup for the best pen in the Show, *Game* excepted. These are an extraordinary pair. The Selling class of Ducks was better than the poultry, although the winners were good in the latter class. In the district competition the medal for the best pen was awarded to Mr. W. Ormerod for a capital pen of old Brown Red Game fowls.

*Pigeons* were a very good entry. Mr. Baker putting in appearance quite astonished the public, but, however, he gave them something to look at, which we consider is a great point at these exhibitions. The cup for the best pen was won by that gentleman with a capital Black Carrier cock. Many of the Pouters were in miserable plight and needed a vacation, but the winning Blue hen kept up wonderfully. *Tumblers* in both classes very good. In the variety of *Tumblers* the Beverley purchase keeps cropping up. *Dragons* a fair class, but not what we generally see. *Fantails* good and the winners *White*. *Barbs* a fair lot, and *Jacobins* good, Reds winning in the latter class. In *Antwerps* was severe competition, and the classes as a whole being very good in quality. We heard of a second purchase of six birds for £80. *Turbits* were a good lot; the first-prize Black was claimed at £5 and quickly sold for much more. In the Variety class first was a Blondinette and second a Black Fairy Swallow, to our mind one of the most handsome birds in the fancy.

*Rabbits* had six classes and fifty-one entries. In Lops Mr. Pepper's well-known doe was first, and a nice Fawn-and-white second, Messrs. Fell's Black-and-white buck not being in condition. *Angoras* were very good; the first perfect, but that the buck is a little moulting; second one of the finest-wooled specimens ever seen, but young and small; a recent winner only very highly commended. *Himalayans* poor except the winners. *Silver-Greys*, the Cottingham winners in grand order, second a fair Rabbit. Any other variety the champion Silver-Cream, second a moderate Belgian Hare, and several other fair Rabbits noticed. The Selling class was a good one; first an Angora and second a lop.

**POULTRY.**—*GAME*.—*Black Red*.—1 and Cup, J. Fletcher. 2, J. Greenhalgh. *Brown Red*.—1, J. F. Walton. 2, T. Dyson. *Any other variety*.—1 and 2, T. Dyson. *Any colour*.—1, C. W. Brierley. 2, W. Ormerod, jun. 3, H. Wilkinson. 2, Dawson & Greenwood. *the* R. Southern. *COCHINS*.—*Partridge* & *Buff*.—1 and 2, C. Sidgwick. *the* J. Walker. *Any other colour*.—1 and 2, C. Sidgwick. *DORKINGS*.—1, J. Stott. 2, J. Walker. *SPANISH*.—1, J. Powell. 2, J. Thresh. *HAMBURGERS*.—*Gold-pencilled*.—1, G. & J. Duckworth. *Gold-spangled*.—1 and 2, G. & J. Duckworth. *Silver-pencilled*.—1, G. & J. Duckworth. 2, H. Smith. *Silver-spangled*.—1, T. Stutter. 2, A. Trickett. *Black*.—1, C. Sidgwick. 2, T. Stutter. *the* C. Sidgwick. *W. Brierley*. *BANTAMS*.—*Brown*.—1 and 2, J. H. Brown. *Red*.—1, A. S. Sugden. 2, W. F. Entwistle. *the* W. F. Entwistle. *E. Walton*. *Game*, any other variety.—1, W. F. Entwistle. 2, F. Steel. *the* E.

Walton, F. Steel. *Any other variety*.—2, C. & J. Hingworth, J. Walton. *the* J. Walker. *FRENCH*.—1, J. E. Clayton. 2, J. Broadley. *POLANDS*.—1, J. Fearnley. 2, J. Partington. *ANY OTHER VARIETY*.—1, J. F. Walton. 2, A. Smith. *SELLING CLASS*.—1, F. Steel. 2, J. Powell. 3, W. A. F. Fenwick. 4, T. Cropper. 5, W. Bentley. 6, J. F. Walton. *DUCKS*.—*Aylesbury*.—1 and 2, J. Walker. *Rouen*.—1 and 2, W. H. Rothwell. *Any other variety*.—1 and 2, J. Walker. *the* J. Booth. *SELLING CLASS*.—1 and 3, J. W. Rothwell. 2, C. Holt. *GEES*.—1 and *the* J. Walker. 2, J. Shackleton. *TURKEYS*.—1, J. Walker. 2, T. & J. Sunderland.

**LOCAL CLASSES.**—*COCHINS*.—1, C. Holt. 2, T. Matthew. *BRABMAS*.—1, C. Holt. 2, J. Chadwick. *BANTAMS*.—1, T. Cropper. 2, H. Crabtree. *HAMBURGERS*.—1, J. H. Fletcher. 2, J. Chadwick. *GAME*.—1 and Medal, W. Ormerod, jun. 2, G. Higgin.

**PIGEONS.**—*POUTERS*.—1, W. Harvey. 2, J. Baker. *CARRIERS*.—1 and Cup, J. Baker. *TUMBLERS*.—*Almond*.—1 and 2, J. Baker. *Any other variety*.—1 and 2, J. Baker. *DRAGONS*.—1, B. White. 2, J. Eeroyd. *FANTAILS*.—1 and 2, J. Baker. *BARBS*.—1, M. Hedley. 2, J. Baker. *the* J. Stanley. *JACOBSINS*.—1 and 2, J. Baker. *ANTWERPS*.—*Long-faced*.—1, J. Eeroyd. 2, S. Wade. *the* C. Hopwood. *Medium-faced*.—1, J. Eeroyd. 2, W. Harrison. *Short-faced*.—1 and 2, J. Eeroyd. 2 and *the* W. F. Entwistle. *TURBITS*.—1, S. Dyson. 2, J. Baker. *TAMPETERS*.—1, W. Harvey. 2, J. Baker. *OWLS*.—*English*.—1 and 2, J. Baker. *Foreign*.—1 and 2, J. Baker. *BLUE ROCKS*.—1, J. Bairdow. 2, J. W. H. Fielden. *NUNS or MASQUES*.—1, Gardner & Kendall. 2, F. Schofield. *FLYING PURPOSES*.—1, W. Harvey. 2, A. Stansfield. *Extra 2*, W. Brown. *ANY OTHER VARIETY*.—1, W. Harvey. 2, W. Harrison. *FLYING PURPOSES*.—*Open* only to birds marked with the Todmorden Homing Society's stamp.—1, W. Bentley. 2, W. Crossley. *SELLING CLASS*.—1, W. Harvey. 2, J. Baker. **RABBITS.**—*LOP-EARED*.—1, E. Pepper. 2, E. Murgatroyd. *ANGORA*.—1, R. Murgatroyd. 2, P. Johnson. *the* T. & E. J. Fell. *HIMALAYAN*.—1 and 2, J. Chappell. *SILVER-GREY*.—1, T. & E. J. Fell. 2, H. Woods. *ANY OTHER VARIETY*.—1, E. Pepper. 2, Miss S. Maude. *SELLING CLASS*.—1, S. A. Clegg. 2, R. Murgatroyd.

**CATS.**—1, T. Tasker. 2, J. Stansfield. 3, F. W. Barritt.

**JUDGES.**—*Poultry, Rabbits, and Cats*: Mr. E. Hutton, Pudsey, Leeds; Mr. R. Payne, Brierfield, Burnley. *Pigeons*: Mr. J. Hawley, Bradford.

### COTTINGHAM SHOW OF POULTRY, &c.

THE annual Show was held in the beautiful grounds of Mrs. Gee, on Wednesday, the 30th ult. The weather was fine till the latter part of the day, when severe thunder showers fell. Poultry, &c., were in the open air, the former under the clumsy old bee-hive-shaped wickerwork pens, which are unsuitable for the purpose and unattractive, and we can assure the Committee the entries will never be good till these antiquated pens are dispensed with. There were no special prizes, and the poultry were but poor, all being young birds, a mistake at a Show like this.

The *Game* and variety *Bantams* and *Fancy Ducks* were by far the best, and very good.

*Pigeons*, on the contrary, were provided with Messrs. Turner's pens, and many extra prizes being given the entries were very good, as also the quality, Mr. Baker taking the majority of the prizes and specials—in fact, a good haul with a capital stud.

*Rabbits* were a capital entry; the prizes—15s., 10s., and 5s. in five classes—brought seventy-five entries, and the quality was such as has never been seen at Cottingham before. In Lops first was a Black-and-white, good in most points; second a Black-and-white-buck; extra second an immense doe, Black-and-white, 21½ by 4½; third a Fawn-and-white buck, 22½ by 4½. Some splendid specimens had very crooked legs, and were passed over. *Silver-Greys* were a grand class, the first being a most handsome specimen, very young, but perfect in shade and silvering, and one that was left out at Rochdale; second was the first winner at Rochdale, very dull and mealy in appearance; third dark on nose, but otherwise perfect. The second at Rochdale, which is very deep in moult, was very highly commended. *Himalayans* a capital class, and honestly shown. The Selling class contained some good specimens—Lop, Silver-Grey, and Dutch winning. The Variety class was a large one, many cracks being gathered together. First was the well-known Silver Cream so often commented on; second a well-known Belgian Hare, remarkably handsome; extra second Angora; and third also Belgian Hare.

*Cage Birds* were a fair lot, and placed under one of the extensive marquees, Mr. Coker's stud being a show in themselves. Grey Parrots were pretty good, but the choice of the lot was the King Parrot shown by Mr. Coker, which is without exception the best we have ever seen. Any other Foreign bird—first a Leadbeater Cockatoo, good in all points, a piping Crow; third a long-tailed Wyddah. Canaries were not equal to the Foreign birds, the point prize for these falling to Mr. Ostler, Hull.

**POULTRY.**—*SPANISH*.—1, R. Newbitt. 2, Recab, Stabler, & White. *DORKINGS*.—1, R. A. Maxsted. 2, Recab, Stabler, & White. 3, J. Fryer. *COCHIN-CHINAS*.—1, W. Saxon. 2, Recab, Stabler, & White. *GAME*.—*Cock and Pullet*.—1 and 3, W. & H. Adams. 2, F. Stamford. *Cock*.—1 and 2, W. & H. Adams. 3, F. Stamford. *POLANDS*.—1 and 2, A. & W. H. Silvester. 3, Harrison. *HAMBURGERS*.—*Gold or Silver-spangled*.—1, J. Stutter. 2, H. Thurlow. *Gold or Silver, pencilled*.—1, W. W. Harcliff. 2, J. A. Holmes. *BRABMAS*.—1, B. Best. 2, M. Straker. 3, W. Scott. *BANTAMS*.—*Game*.—1, H. Elwes. 2, R. Newbitt. 3, H. M. Eames. *Any other variety*.—1, J. F. Phelps. 2, J. N. Proctor. 3, Recab, Stabler, & White. *Any variety*.—Cock—1, R. Newbitt. 2, W. Morris. 3, Recab, Stabler, & White. *DUCKS*.—*Aylesbury or Rouen*.—1, W. Piory. 2, W. Legate. *Any other variety*.—1, 2, and 3, A. & W. H. Silvester. *ANY OTHER VARIETY*.—1, J. Stutter. 2, Recab, Stabler, & White. 3, H. Thurlow. *SELLING CLASS*.—1 and 2, Recab, Stabler, & White. 3, Mayfield. *EXTRA CLASS*.—1, Mayfield. 3, Major Fawcett.

**PIGEONS.**—*POUTERS*.—*White*.—1 and 3, A. Spencer. 2, W. Harvey. *the* J. Blanchard. *Any other variety*.—1, H. R. Tenney. 2, W. Harvey. 3, J. Baker. *the* J. Baker. *H. R. Tenney*. *BRABMAS*.—*Special 1* and 2, J. Baker. 3, H. Gashy. *the* J. Baker. *W. & H. Adams*. *TURBITS*.—1 and 2, J. Baker. 3, T. S. Stephenson. *the* R. Woods. *J. Blanchard*. *JACOBSINS*.—1 and 3, J. Baker. 2 and *the* J. Blanchard. *FANTAILS*.—*Special 1* and 2, J. Baker. 3, J. N. Proctor.

*who*, J. F. Loversidge. DRAGONS.—J. R. White. 2, J. Baker. 3, R. Woods. TUMBLERS.—Special 1, 2, 3, and *who*, J. Baker. ANTWERPS.—1 and 3, R. White. 2, F. R. Edwards. BARBS.—1 and 2, J. Baker. 3, H. Crosby. ANY OTHER VARIETY.—Special 1, W. Harvey. 2, J. Baker. *who*, H. Crosby. SELLING CLASS.—*Pairs or Single*.—1, W. Harvey. 2, F. R. Edwards. W. & H. Adams. 3, C. Wood. *who*, J. Blanchard. R. White (2), W. & H. Adams. RABBITS.—LOP-PARROT.—1, E. Pepper. 2, T. & E. J. Fell. Extra 2, T. Myton. W. & A. Horner. 3, J. Noble, jun. *who*, J. Falding. T. & E. J. Fell. SILVER-GREY.—1, T. & E. J. Fell. 2 and *who*, H. H. Duck. 3, T. Myton. HIMALAYAN.—1 and 2, T. & H. Duck. 3, J. W. Atkinson. SELLING CLASS.—1 and *who*, T. Myton. 2, E. Pepper. T. & E. J. Fell. Extra 3, E. Robinson. ANY OTHER VARIETY.—1, E. Pepper. 2, E. Robinson. Extra 2, T. & E. J. Fell. 3 and *who*, T. Myton. Extra 3, T. & H. Duck. CAGE BIRDS.—PARROT.—Grey African.—1, R. Smith. 2, C. Glover. Any other variety.—1 and 3, J. Coker. 2, Sir T. A. Constable. PARROQUET OR LORY.—1, R. Durden. 2, G. Coker. 3, J. Coker. LOVE BIRDS.—1 and 3, J. Coker. 2, W. G. Furdon. ANY OTHER VARIETY OF FOREIGN BIRD.—1, Special, and Extra 3, J. Coker. 3, C. A. Glover. 3, J. C. Griffin. CANARIES.—Belgian.—1, W. Forth. 2.—Ostler. 3, C. J. Salt. Norwich.—1, C. J. Salt. 2, G. Ostler. Extra 2, W. Forth. Marked, any breed.—1, G. Ostler. 2, C. J. Salt. LARKS.—1, J. Barnes. 2, T. Kirk, jun. BRITISH BIRDS.—1, R. Toogood. 2, J. Barnes. 3, G. Coker.

JUDGES.—Poultry and Rabbits: Mr. E. Hutton. Pigeons: Messrs. Hawley and Hutton. Cage Birds: Mr. L. Mennikie.

### DISEASES OF PIGEONS.

THE symptoms of the Pigeon which I lost, as I believe from inflammation of the lungs, were rather different from those described by Mr. Hutchinson as being indicative of bronchitis. The bird never lost its inclination to eat, but seemed unable to pick up the peas. The only other symptoms were extreme difficulty in breathing, and for some hours before death a most distinct clicking in the lungs could be heard even at a distance of some yards. The bird was removed from the house and brandy and water administered. On the third day, when too late, I applied a mustard plaister between the shoulders, which gave it some relief, but it was not soon enough to save it. When opened the lungs proved to have been very much inflamed, with a great deal of froth about them, and some clotted blood was found near the heart.

I have been much troubled with canker this year, and lost a great many young Pigeons from that disease; I should therefore feel grateful for suggestions. Some birds have been very much more unfortunate than others, having lost all their young, while others again have not lost one from that cause. Does not this look as if there was some natural tendency to this disease in the young birds inherited from their parents? This question of the disease being hereditary is most important, as, if it does not exist, there can be no reason for destroying good birds simply because they have been unfortunate with their families. I may mention that my birds are well housed, kept clean, and fed on white peas and dari in the morning.—E. B. T.

I FIND the forms of disease are so numerous and puzzling that, in the words of Lord Dundreary, they are things that "no fellow can understand;" but nevertheless, I still venture to assert that Pigeons are often amenable to treatment, and that I have in my lofts healthy breeding birds that would have undoubtedly died if left to themselves. I can give many instances, but will take two of the most remarkable. I bought a prize Pontor cock two years ago. When he arrived here he was scouring badly. I took every care of him; gave him Walton's paste, sulphate of iron in his water, powdered chalk, opium pills, and crammed him with beans without any effect; he got worse and worse, and became so weak and thin as to be unable to stand, and did not eat a grain himself for several days. I happened to have seen a letter in your journal asserting that scouring was caused by worms. I took an eggspoonful of powdered areca nut, mixed it with powdered chalk and Walton's paste, water, and two grains of opium, and put it down his throat. The next morning he had passed a round worm 2 inches long, similar to those that horses are sometimes infested with; he began to feed the same evening, became perfectly well in four or five days, has bred for two seasons, won twice, and I have three birds by him here at this moment. The same year I bought an imported Black Russian Trumpeter. A short time after I received him I observed him amiss—picked him up, and found he had a large tumour on the lower part of his crop, externally as large as a five-shilling piece, of a yellowish colour, with an internal hard core firmly attached to the top of the breastbone, and as large as a hazel nut. It looked so bad a case that, although I had given a large price, I was on the point of killing him, but resolved on trying iodine. I first plucked off the feathers, and painted heavily with tincture of iodine. In three or four days the tumour was considerably reduced, and after three applications at intervals of a week disappeared entirely. He is now alive, has bred well, and won two first prizes since. Now, as to disease being hereditary, none of this bird's young have had a stiff wing or tumour of any kind.

With respect to the canker in the young birds, I have never had many cases of it, but curiously enough have had two this year, one in a pair of young Trumpeters, under feeders; and another in a pair of Ponters, also under feeders. In the case of the Trumpeters they were apparently at night both doing well; the next morning I found one of the two dead, his crop full, and his mouth full of blood. On opening him I found a large tumour

loosely attached to the inside of the throat, which had, I think, choked and caused him to break a blood-vessel in the head. Had I perceived it I believe it might have been pushed down the throat; if the place had then been dressed with caustic I think the bird would have lived and done well. The other young one was reared, fed himself, and did well till he died a day or two since in moulting. The case of the young Ponters was somewhat similar; apparently well overnight, in the morning the head of one of them was dreadfully swelled, and the bird dying. I killed him, and found a tumour behind his eye. This case was evidently incurable, as the cancer was not confined to one place, but involved the whole head and neck. The other young one did well, is a particularly large handsome bird, and is now nearly through his moult. In both these cases none of the earlier and later young birds from the same parents have shown any signs of canker, and are all quite healthy. I think that canker comes from the feeders, and not from the parents.

A "PUZZLED FANCIER" should change a pair eggs from the birds that breed cankered young to a pair that breed healthy birds. If they still turned out cankered it would go a long way to prove that his view is right; but even if this did happen I think it quite possible that they might not breed a single cankered bird next season.

I have a large number of birds, some chiefly feeders, and young birds fly at liberty. The others are confined in lofts and aviaries in three or four places at a distance from each other. Last season I lost fully three-fourths of the young birds hatched from the second and third round of eggs by a disease I had never seen before, and have not had a single case of this year. They all died at about ten days old of disease of the liver, which grew to an enormous size and was full of yellow pustules. The old birds were apparently quite healthy, and none of them died of it, and the disease attacked all the varieties indifferently, the feeder's own young birds dying just as freely as the more delicate birds. I think "PUZZLED FANCIER" must admit that it was not a case of hereditary taint. Since I wrote to you last I have had another very bad case of bronchitis in a two-year-old and very valuable bird. I have treated him in the way I stated in my last letter, and he appears to be in a fair way to recover.—J. H. HUTCHINSON.

### CANARY MANAGEMENT IN OLDEN TIMES.

No. 3.

In the Journal of July 27th, page 84, I promised to state in a future chapter Mr. Hervieux's method of making a composition for young Canary birds, which, as the writer observes, "may serve a fortnight at least without being spoiled."

"Take half a pint of rapeseed and bruise it very well in a large mortar, or on a smooth table, running a wooden roller over it several times, so that the seed being well broken you may cleanse it from the husks; add to it three little dry simeles bruised and reduced to powder after having taken off the first crusty part; add to it a penny biscuit. All this being well mixed together and reduced to powder, put it into a new wainscot [deal] box, and set it in a place that is not exposed to the sun. Take a spoonful or more of this powder as you have occasion, and your birds' food will be made in a moment, adding to it a little of the yolk of an egg, and a drop of water to moisten the whole. But you must not give your Canary birds this powder above twenty days at most, for after the said term the powdered rapeseed which is in the composition, though dry, grows sour, and when water is put to has a taste like mustard, which cannot but be hurtful to your young birds."

Mr. Hervieux's advice is not to make too large a quantity of the composition at one time, for being kept in a deal box is (owing to the soft nature of the wood), apt to breed worms. He further says, "After twenty days at most, if you have any of this composition left you may give it in the dry prepared state to the old cocks and hens, which will eat it heartily without receiving any hurt by it."

A recipe for a similar composition to the above, the only alteration being the omission of the dry bruised rapeseed, is given for young birds in their earliest stage of youth—from the chipping of them until they are four days old. The writer appears to have much favoured the system of bringing-up young birds by hand, or of providing the means by which it might be effected. He says, with a drop or so of water moisten the composition, and "tempering all well that there may be no hard lumps. This paste must never be too thin, because if so it does not nourish them so well, and they are continually craving; besides that when it is too wet they, the birds, are often loose and scarce recover it. When the paste is somewhat stiff it lies longer in their craws, and nourishes them better. When the hard egg is new the white dissolves as well as the yolk, and does not heat them so much as if there were only the yolk. When the first three days are past, and I perceive my young birds gather strength, I add to the composition a small quantity of rapeseed boiled without bruising, they being then able to digest that seed, but the said rapeseed must be washed in cold

water after having just boiled-up, for it then nourishes the little birds without heating them. Now and then I give them a sweet almond blanched and reduced to powder, which I mix with their paste. When I perceive the little birds are somewhat heated I put in a pinch of the seed of chickweed. This composition is to be made twice a-day in very hot weather, because everything that goes to the making of this paste soon grows sour. This is, in short, what I use to bring-up little Canary birds by hand. . . . If you make use of this last composition you may be assured your little ones will come to good, and if you rear-up forty by hand scarcely one will die." Not a bad task certainly for anyone wishing to enter into the pleasure and mystery of Canary-breeding.

Again: "If it happens that any of your little Canary birds are sick, which is not strange in a considerable number, instead of fair water you may make use of the water or milk of hemp, which is made after this manner:—Take a handful of hempseed, wash it well in spring water, then bruise it with a wooden pestle in another water, and press out the juice in a white linen cloth, and take it to moisten your composition. This is called hemp water or milk, and nourishes and warms your sick Canary birds better than fair water which is put to the common compositions; but it is not to be used unless in case of necessity, because it is troublesome to make such water twice a-day, and the little birds that are in health do not need to be much warmed as the hemp water does."

In speaking of the necessary materials with which the composition or paste is made the writer says—"As for provision of biscuits it is needless to lay-in any, because they are to be had at all times; but respecting the simnels a stock of them must be laid-in about Michaelmas, when the pastrycooks give over making of them. You must, therefore, cause several dozens of them to be made according to the number of Canary birds you have. String and keep them in a dry place and give some to your birds the day you give them no seed. They are very fond of it, and it can do them no harm. Brush the simnel well before you give it them because of the dust that may stick on it. The simnels I cause to be made have more crumb and are not so flat as the others. I cause good butter to be put into them, and a little more salt than is usual in others, and thus they keep very well till the time when new ones are made."

In the next chapter I will detail the several sorts of food Mr. Hervieux supplied his birds with when pairing, breeding, and when the young are caged.—GEO. J. BARNESBY.

### LESSONS FOR COTTAGERS.

MANY ladies and gentlemen have by letters asked me if what is called my system of bee-keeping could be put in little compass, so that they could easily and cheaply get the system into the hands and heads of the villagers and cottagers around them. The parties who thus wrote to me are greatly interested in the welfare of their poorer neighbours, and fancy that a few hives of bees well managed would help to uplift them above the difficulties of their present position. One cannot but admire the disinterestedness of those who are seeking to promote the comfort and social elevation of working people by putting them in possession of a perennial source of income and enjoyment.

From an experience extending over half a century of time, I can say that bees properly managed in rural districts yield a considerable amount of both pleasure and profit; and I hope—nay, I am certain, that as time rolls on and knowledge spreads, many classes of our working population who now waste much of their time and substance in public houses, bring poverty and misery upon themselves and their families, will alter their course of conduct and betake themselves to pursuits that are commendable, pleasure-giving, and self-rewarding. I know of nothing better, less toilsome, or more remunerating than a few swarms of bees. Yesterday a letter came from a collier in Staffordshire who has, he informs me, taken 90 lbs. of honey and six swarms from three hives, and he may get 90 lbs. more from his three first swarms. He readily sells his honey at 1s. 4d. per lb.

Though anxious enough to help cottagers and others who know little of bee-management, I do not believe that a very condensed treatise on their practical management would go far to accomplish what my friends wish. Very few of the cottage class of bee-keepers are seeking information. An example of success in their neighbourhood would awaken an interest. An object lesson or two would soon be copied, and the prospect of £ s. d. would deepen their interest and lead them on to success. I have seen many cases of this kind, and believe that they are now being multiplied very fast.

Though my book referred to is characterised by the plainness and simplicity of its lessons, I receive many letters from all classes asking for fuller information on this and that point, and many who well understand the meaning of the instruction given write for encouragement of assurance, that they, mere beginners, can carry it into practice.

The first lesson that English bee-keeping cottagers have to learn is this, that bees should have good houses to live-in, with

plenty of elbow room for work and expansion. Let them have an intelligent grasp of this idea, and one good season for honey after they have put the idea into shape, and all the rest will follow: they will get on and get up. I use and recommend hives made of straw, for I can find nothing equal to them for health, comfort, and convenience. All handy cottagers can if they like make good straw hives of any size, and those who cannot make or buy them will have to resort to boxes.

The question of the materials whereof hives are made is not so important as that of size. I have stated this more than once. Mr. M. Quinby, lately deceased, who was one of the greatest and most successful of American apiarists, took pleasure in stating that plain wooden boxes costing about 20 cents were as good for bees as more costly wooden patented hives. I fancy he was right, and if I could not obtain hives made of straw large in size I would use cheap unplained wooden boxes. In large grocery establishments we find large empty boxes, suitable enough for bees, are sold at 2d. each. These would certainly be superior to the small straw hives so commonly used by English cottagers, inasmuch as bees would have more room in them. With boxes of this kind, containing from 2000 to 3000 cubic inches or more of space, any bee-keeper with a little experience might manage his apiary with success; and, moreover, with a very little ingenuity and modification the boxes could be used as supers, nadders, and ekes, or made to act-out the principle of Nutt's collateral hive and the Stewarton storifying one.

I am certain that when the poor bee-keepers of England come to know and realise the fruits of success from the use of large hives they will set a high value on their servants, and diligently work-out the details of any system of management they may adopt. And as we all believe in the "good, better, best," let us hope that working men and women may be led to adopt the system of management which puts most money into the pocket with the least possible trouble.

There are in the habits or natural history of bees some few things which should be understood by all who manage their bees intelligently. In every healthy hive of bees there are a queen or mother bee and workers which at one time were called neuters, because it was believed they were neither male nor female. But now it is well understood that they are female in character though they lay no eggs. They are produced and producible from the same kind of eggs as queens, but somehow, which nobody understands, they are dwarfed into infertility and are smaller than queens. Males or drones are bred in all hives about the swarming season.

A queen is fourteen days only in being hatched, leaves her hive when only a few days old to meet the drone, and never again leaves the hive but on swarming occasions. The queen lays all the eggs—is mother of the whole community—always goes with the first swarm and lives four years. After swarming and death she generally leaves princesses in royal cells, one of which will be enthroned in her place.

The working bees are three weeks in being hatched, and though they live nine months only, their history is full of marvels. They struggle into the world without assistance from any quarter, and finding themselves amid a scene of social, active life, they begin at once to push their way in the world. In less than three days they pick-up the acquaintance and companionship of thirty thousand fellow citizens, and know every one of them. Weather permitting they survey the country around, notice every prominent object within a radius of one mile or more from their hive, gather honey in forest and field, on hill-top and in valley, and never lose their way home. Their career from the cradle to the grave is one of untiring energy and disinterested service. Being loyal to a degree they will attend to their queen and meet her every want and wish; assist in setting her eggs, nurse and hatch all the brood, fetch all the water and bee-bread necessary, and as much honey as their strength permits them to carry and store away. They manufacture all the wax into combs after secreting it in their own bodies. The lives of bees are valuable—valuable for work in summer and for heat in winter.

I lately offered £7 10s. for 100 lbs. of condemned bees. If the offer is accepted the lives of 500,000 bees doomed to die by the fumes of sulphur will be saved. Let this fact be told in the cottage homes of England.—A. PETTIGREW.

### HONEY AT THE LAST CRYSTAL PALACE SHOW.

I HAVE no intention to use the pages of this Journal for any controversy with the Rev. C. N. Gray, but as he has herein reflected on the *bona fides* of the managers of the British Bee-keepers' Association I am impelled to reply. In lieu of Mr. Gray's honey being well packed it was simply not packed at all, although the supers were in large cases. After passing through the hands of several sets of railway servants it arrived as might have been expected—the greater part of it broken, and honey

running out. I, being Honorary Secretary at the time, wrote to Mr. Gray telling him the state, and he telegraphed to me to do the best I could, which I did. I have not noticed Mr. Gray's insinuation, nor two lawyer's letters from different legal gentlemen he has favoured me with, threatening me with all the terrors of the law unless I pay to him a sum of money more than the original value of his honey, and which he has already been paid for.—JOHN HUNTER, *Eaton Rise, Ealing.*

[We must decline inserting more on this subject.—Eds.]

### THE COMPLETION OF UNFINISHED SUPERS.

A LITTLE time ago it was maintained in our Journal that bees would not complete a super from a strange hive, but forthwith carry the contents below. It struck me at the time that Mr. Pettigrew had been misunderstood. At any rate, lest any young bee-keeper should be misled, allow me to say that I have removed several unfinished supers this season from one hive to another with a view to their completion, and have without exception succeeded. In no case were the contents carried below, but the bees took gladly to them and completed them.

Like everything else success depends upon the way in which the work is done. If an unfinished super is given to a strong stock—either a strong early swarm which has well finished and filled its hive, or to a non-swarm in a condition to occupy it—according to my experience the bees will set about completing it, provided that it be done during the honey harvest. I began this season with seven stocks on the non-swarming system. All but one swarmed and left several unfinished supers on my hands; yet, notwithstanding, all were completed save one, and this last only through the honey harvest coming to an end. One super was worked by three different stocks.

With the unfinished super I determined to test Mr. Pettigrew's suggestion of filling by feeding. The super was made to hold 20 lbs., and was not quite three parts full. Two of the combs were nearly finished and sealed, three others were in various states of progress. First I gave the refuse of some drained comb, next a bottle of run honey, and lastly some more refuse. It was all given on the top of the super. Not only did the bees proceed to fill the cells, but also to build fresh comb. The fresh comb was, however, of a dark brownish colour, and not such as we like to have in supers. I attribute this to the inferior material out of which the bees had to manufacture it.

Having satisfied myself that Mr. Pettigrew was right, if the thing was done in the right way, I gave it up; first because I had other things to attend to, and secondly because I found it would consume more honey than it was worth. For the satisfaction of your esteemed correspondent the "RENFREWSHIRE BEE-KEEPER," allow me to add that this super is not for sale, and that I quite agree with him in his view of the matter on that point.

Further, I have also had supers emptied and the honey carried below, but these were pieces of comb containing both honey and brood fixed in supers and given to weak stocks for that purpose. Stocks weakened by swarming will consume or carry down the contents of their own supers. In conclusion there are three rules to be observed:—1st, To give unfinished supers only to strong stocks in a condition to occupy them; 2nd, To do it at the right time—viz., during the honey harvest, not after it is over; 3rd, Carefully to fill-up any crevices at the juncture of the super and the stock hive with wedges of wood or strips of paper gummed or pasted.—O. B.

### THE STEWARTON HIVE AND SYSTEM.

Your correspondent "Q. B." is perfectly right—the Stewarton hive and system of bee-management gives a large amount of super honey with very little trouble. Combined swarms and non-swarming colonies are generally independent of all feeding, as their owner is of run honey.

The Stewarton hive is designed for non-swarming purposes. In its natal place swarms are purchased and brought from earlier districts on the coast, and combined to obtain the first and finest clover supers, wrought with 18 inches deep of breeding space, full-sized triple entrances, and carefully wrapped-up supers, in advance of their wants. Such colonies well shaded from the sun rarely swarm; with restricted space, if the bee-master wishes to increase his stock, they will, of course, give swarms as readily as any hive.

The advocacy of an indiscriminate large hive with fixed space, which can only be made yet larger with ekes, without the means of contraction, at the close of the season, to be employed in all seasons and districts, I regard as an absurdity. The Stewarton during the winter and early spring months possesses the advantage of being a comparatively small hive, standing in one or a couple of breeding boxes at most, where the heat is better concentrated and early breeding promoted with the advance of the season. It attains a depth of 18 inches, and an overflowing population to take possession of supers so soon as honey is

secreted in abundance, and becomes the largest of all hives, possessing facilities for supering and nadiring on *ad infinitum*; can be drawn out telescope fashion to focus exactly all seasons and districts, be they good or bad.

Boxes 12 inches deep would require cross sticks, rendering the combs fixtures; two 9-inch boxes make a better hive. My breeding boxes are 7 inches deep and every comb moveable.

The object of having supers but 4 inches deep, with bars 2 inches broad, is to obtain more massive and richer honey-combs, and the shallowness insures their more thorough completion. Such 20 lbs. supers are considered too large size for ready sale singly, each bar comb being removable with half-inch screws, and straight guide comb wrought increases the saleableness of boxes and their disposal without any cutting or waste. On young hives I generally use supers 3 inches deep to contain 15 lbs.

Placing the empty super upon the filling one instead of between it and the stock hive is in strict accordance with the habits of bees. They invariably store the honey for safety at the point farthest removed from the entrance in the stock hive—the top, brood to the floorboard: hence they elongate the brood combs in a downward, the honeycombs in an upward direction. This can easily be seen on the removal of a central bung from a common skep, when they at once proceed to build the comb upward through the aperture towards the roof of super; or, to illustrate further, take the case of the strongest colony in my apiary, stocked with first-class Italians the present season, I gave access to a couple of supers for a start. According to common opinion as laid down by your correspondent the bees would have begun work in the upper; but no, they started in the lower box, crowding up into the upper. By-and-by, finding them lying out badly, I supplied three more at once, and they were soon fully occupied. The lowest seen to be sealed-out was removed, still they threatened swarming, and it was not till after they had obtained the maximum of seven 4-inch supers did they settle down to determined earnest toil.

On my return home after a short absence on 18th August I made an examination of my several stocks. The colony above referred to, on the wrappings being removed, stood 4½ inches high from the floorboard, and peopled from top to bottom. On drawing the shutters I found the four lowest 20-lb. supers at the bottom of the pile thoroughly sealed out, fifth all but sealed, sixth combed out with thin combs, seventh about half combed. The four sealed ones I removed, which with the first harvested made five supers, leaving the remaining three uppermost on for completion in their respective order.—A RENFREWSHIRE BEE-KEEPER.

### THE BRITISH BEE-KEEPERS' ASSOCIATION.

THIS Association will hold their third annual Show at the Alexandra Palace on the 15th, 16th, and 18th inst., and considering the late brilliant honey harvest a fine show may be expected. Arrangements have been made to give practical lessons in bee manipulations during the meeting by Mr. Hunter, Mr. Cheshire, and others, for which purpose a large number of stocks are provided, after the use of which the Committee will be glad to supply at a nominal price to those amateurs who may be desirous of starting as bee-keepers.

### BEE MANAGEMENT.

I HAVE bought twenty swarms of bees at 1s. each, and I could buy one hundred more at the same price if I would take them up (drive them). They tell me that I shall not keep them alive all the winter, but I mean trying. One man tells me that he has kept bees for fifty years and that he knows no other plan than to brimstone them. Small straw hives only are used in this neighbourhood, but I have had some larger hives made, and when I get my swarms home I shall put two in a hive and feed them. All I want to know is this, Am I doing right or not? Is half a pound of syrup daily enough to keep the bees?—W. H. A.

[You have made a good bargain in buying twenty swarms for 20s., and you are doing right in putting two swarms together in hives larger than those in general use. But you must give each hive of bees 1 lb. of syrup every night for three days, afterwards 2 lbs. at least every night for a fortnight. Every hive should have 15 lbs. of sugar made into good syrup in fifteen days. From the syrup thus given your bees will build combs from top to bottom of the hives, and store food enough in them for the winter. You are now making a fair and promising beginning, and we wish you success.]

### NEW BOOK.

*Practical Bee-keeping. Illustrated, re-written, and enlarged by FRANK CHESHIRE, A.C.P.*

MR. CHESHIRE has long been known as an ardent and scientific apiarian, whose name in connection with various inventions



useful to the fraternity is no doubt well known to many readers of this Journal. Some of these inventions, which are most ingenious, have obtained prizes at the Crystal Palace Shows, and are in use in many if not in all modern high-class apiaries; for we must distinguish between apiaries the sole object of which is the acquisition of honey and those which combine this with scientific management. No doubt the primary *raison d'être* of an apiary is to obtain honey; and if this be the sole object of any bee-keeper we know no better guide or authority than our friend "on the paddle-box," the veteran Mr. Pettigrew, to whom to refer him. Big hives of straw and honey by the ton are and will ever be associated with his name. At a time when the tendency of our bee-keepers was to sacrifice utility and profit to the love of novelty and fancifulness Mr. Pettigrew came to the fore, and by dint of strong common sense showed how the old way and the old bees could hold their own and beat the modern fashions out of the field in the one respect alluded to above.

Granted, however, that such is the case, we are quite sure that at least as much honey can be obtained under the highly scientific treatment advocated by Mr. Cheshire, only it must be understood that no tyro can expect to be thus fortunate. The intelligent and skilful and experienced alone will succeed, and such as have time at their command. In their case—and there are multitudes of bee-keepers of this class—infinite pleasure and an interest inexhaustible will follow the adoption of the system advocated in this little book by Mr. Cheshire; for here are full and plain instructions to the amateur on every point connected with bee-culture, with carefully designed illustrations of the various materials used by the first apiarians of the day, including such items as bee hives of all sorts, improved feeding apparatus and processes, guide combs and how to make them, supers, bee and drone traps, transferring boards, queen cages, &c. The book closes with a complete calendar of operations during each month in the year, and last, not least, with a capital index.

We will only make one extract from Mr. Cheshire's book, and it shall be on the subject of the Italian or Ligurian bee, the merits of which in comparison with the dusky bee of our cottage gardens have been recently discussed in these pages. "We are of opinion," says Mr. Cheshire, "that the Ligurian is much more prolific than the black, and that it is ready for swarming earlier—advantages of no mean weight; but we have failed to note that greater strength of constitution in the foreigner which some assert." He adds in proof of the prolific character of this bee, although we are somewhat incredulous of the fact, that "the black bee hardly now exists; everywhere he has been improved by foreign blood. In 1874, in a most isolated moorland in Northumberland, where frame hives are unknown, but where little skeps abound, we failed to find a pure specimen of the English variety." Yet he observes "a lengthened observation of the two varieties is evidently needed before any conclusion can be arrived at" as to their relative value.

We recommend the book to the notice of amateurs.

## HONEY RECIPES.—No. 4.

(MEDICAL.)

TO CLARIFY HONEY.—Melt in a water bath and strain while hot through flannel previously moistened with warm water.

ALMOND AND HONEY PASTE FOR BEAUTIFYING THE SKIN, SUNBURNS, FRECKLES, &c.—Clarified honey 16 ozs., bitter almond powder 16 ozs. Rub smooth and add gradually in alternate portions 32 ozs. of oil of sweet almonds and the yolks of five eggs. Perfume with twelve drops of otto of roses.

HONEY PASTE (Pâte au Miel) FOR CHAPS, &c.—Clarified honey and cold cream equal parts rubbed smooth together.

HONEY AND BORAX FOR APHTHA (SORES) IN CHILDREN'S MOUTHS.—Dissolve 1 oz. of borax in 1 oz. of glycerine, and then add 6 ozs. of clarified honey.

HONEY GARGLE (Consumption Hospital Recipe for Consumptive Sore Throat).—Borax 1 drachm, honey 2 drachms, water 4 ozs. Mix.

OPHYMEL OF SQUILLS.—Vinegar of squills 5 ozs., clarified honey 8 ozs. Mix. Useful as an expectorant in coughs. Dose—half a teaspoonful four or five times a day.—JOHN HUNTER, *Ealing*.

FOREIGN POULTRY.—The value of poultry imported alive and dead this year was £113,216, against £181,587 in the corresponding period of last year.

## OUR LETTER BOX.

IPSWICH POULTRY SHOW (*Gertrude*).—An advertisement in our columns to-day announces that the old Show will be as usual. We know of no reason why both shows should not succeed if judiciously managed. Let us wait until we can observe the results.

EXTENSIVE POULTRY-KEEPING (*W. Illingworth*).—No one that we know succeeded in obtaining a living by keeping poultry. It has been tried by a

company, but epidemic diseases, unfavourable seasons, and low prices brought ruin. The further north the more unfavourable for poultry.

PIGEONS AT HALIFAX SHOW.—We omitted to mention in our report of the Halifax Show last week, that the five-guinea cup for the best pen in the Show was won by Mr. M. Hedley with his Black Carrier cock.

KILLING DRONES (*J. O.*).—No one can with certainty account for the drones in hives being permitted to live longer this year than in others. Some three or four years ago the drones in many prosperous healthy hives were not killed till October. In ordinary cases drones are killed in swarm hives about ten or twelve days after their queens begin laying. In parent hives, after swarming, and when their young queens have commenced breeding, the drones being useless are destroyed; then at the end of the season the general massacre takes place. Bees without queens, or with queens unfertilised, never kill their drones. Hives that do not kill their drones at the usual times should be examined, and if found without brood in their combs there is reason to suspect that their queens are either lost or useless.

PARROT MOULTING DELAYED (*A. K.*).—Warmth and extra nourishment are indispensable. You should alter the food thus, according to an authority on the subject:—"Hempseed and Indian corn given separately, each twice a week, bread and milk, with a few chillies cut small once a week. On the seed days a little saffron steeped in the water. If great difficulty in the moult, give captain's biscuits soaked, and made hot with cayenne, about three times a week, and put some liquorice in the water."

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.	
1876. Aug. and Sep.	Barometer at 39° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Shade at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.		On grass
		Dry.	Wet.			Max.	Min.	In sun.	On grass			
Inches.	deg.	deg.	S.W.	deg.	deg.	deg.	deg.	deg.	deg.	In.		
We. 30	29.742	6	5.5	S.W.	61.3	69.0	50.0	122.6	44.8	0.192		
Th. 31	29.149	51.0	47.5	W.	59.6	60.2	45.8	113.8	42.2	0.163		
Fri. 1	29.618	55.8	52.8	W.	58.0	68.8	49.2	117.4	49.3	0.020		
Sat. 2	29.806	58.3	54.0	S.W.	58.0	66.7	47.8	113.8	42.9	—		
Sun. 3	29.689	58.2	53.7	N.	57.5	67.4	50.0	114.9	47.2	0.240		
Mo. 4	29.758	59.7	58.3	S.	54.3	69.7	55.2	94.2	62.0	0.637		
Tu. 5	29.628	64.7	63.6	S.W.	50.5	70.8	59.1	120.2	56.6	0.212		
Means.	29.627	58.2	54.7		58.3	67.5	51.0	113.8	47.8	1.454		

## REMARKS.

30th.—Dull morning, bright forenoon, dull afternoon, wet evening, and a windy night.

31st.—Damp morning; rather bright about 11 A.M., followed by rain soon after noon; showery day and wet night.

Sept. 1st.—A pleasant day; one or two showers during the day; a beautiful rainbow at 4.30 P.M.

2nd.—Fine, but rather hazy in morning, but soon fine; a pleasant day; slight rain between 4 and 5 P.M.

3rd.—Fine morning and pleasant day; but too cloudy from seven to nine for the eclipse of the moon to be seen here.

4th.—A pouring wet morning; alternate sunshine and showers during the day; rainy evening and windy night.

5th.—Windy all night, and heavy rain in early morning, but fine by 9 A.M., and a very pleasant day afterwards.

A great fall of rain, but little difference in temperature from last week, though some of the days seemed chilly.—G. J. SIMONS.

## COVENT GARDEN MARKET.—SEPTEMBER 6.

THERE are no quotable alterations in the prices of last week, and the tone of business remains in the same quiet state.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	to	5	Nectarines.....	dozen	8	10	2
Apricots.....	dozen	0	0	0	Oranges.....	100	0	0	24
Cherries.....	lb.	0	0	0	Peaches.....	dozen	8	0	0
Chestnuts.....	bushel	0	0	0	Pears, kitchen.....	dozen	0	0	0
Currants.....	1 sieve	0	0	0	dessert.....	dozen	1	6	8
Black.....	1 do.	0	0	0	Pine Apples.....	lb.	2	0	6
Figs.....	dozen	1	0	0	Plums.....	1 sieve	7	6	10
Filberts.....	lb.	0	6	1	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	0	6	0	Strawberries.....	lb.	0	0	0
Lemons.....	100 lb.	2	0	5	Walnuts.....	bushel	0	0	0
Melons.....	each	2	0	0	ditto.....	100	0	0	0

### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus.....	dozen	4	0	6	Leeks.....	bunch	0	4	0
Artichokes.....	100	0	0	0	Mushrooms.....	pottle	1	0	2
French.....	bundle	0	0	0	Mustard & Cress.....	punnet	0	2	0
Beans, Kidney.....	1 lb.	0	8	0	Onions.....	bushel	2	0	5
Beet, Red.....	dozen	1	6	8	Pickling.....	quart	0	4	0
Broccoli.....	bunch	0	2	1	Parley.....	doz. bunches	2	0	4
Brussels Sprouts.....	1 sieve	0	0	0	Parsnips.....	dozen	0	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	9	1
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	2	6	8
Capsicums.....	100	1	6	2	Kidney.....	do.	8	0	8
Cauliflower.....	dozen	1	0	4	Radishes.....	doz. bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	8	0
Coleworts.....	doz. bunches	2	0	4	Salafy.....	bundle	0	9	1
Cucumbers.....	dozen	0	2	0	Scorzonera.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	8	0	Shallots.....	lb.	0	8	0
Garlic.....	lb.	0	6	0	Spinach.....	bushel	1	6	2
Herbs.....	bunch	0	8	0	Tomatoes.....	1 sieve	4	0	5
Horseradish.....	bundle	4	0	0	Turnips.....	bunch	0	4	0
Lettuce.....	dozen	0	6	2	Vegetable Marrows.....	0	2	0	8
French Cabbage.....	0	0	0	0					

## WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 14—20, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
14	Th	Kilmarnock Show.	67.0	46.1	56.5	5 85	6 15	0 22	5 9	26	4 42	258
15	F		67.5	45.9	56.7	5 37	6 13	1 54	5 29	27	5 3	259
16	S		68.4	46.8	57.6	5 39	6 10	3 24	5 44	28	5 24	260
17	SUN	14 SUNDAY AFTER TRINITY.	68.9	44.9	56.9	5 40	6 8	4 52	5 56	29	5 45	261
18	M		68.2	46.5	57.4	5 42	6 6	6 16	6 8	30	6 6	262
19	Tu	Twilight ends at 8.3 P.M.	67.3	45.3	56.3	5 44	6 3	7 39	6 20	31	6 27	263
20	W		68.0	44.0	56.0	5 45	6 1	9 1	6 33	32	6 43	264

From observations taken near London during forty-three years, the average day temperature of the week is 63.0°; and its night temperature 45.5°.

## S ORING ROOTS FOR THE WINTER.



**T**HE storing of all kinds of roots cannot be too well attended to. Their perfect preservation depends entirely on how the work is done. Complaints of losing such and such a thing throughout the winter are not unfrequently heard; whereas most roots are quite as easily kept in their dormant state as in their growing one, but at the same time they should be just as carefully seen to at the one time as the other.

Roots requiring to be stored throughout the winter may be divided into two classes—namely, vegetable and flower roots. Amongst the former Potatoes are of the greatest importance. Sometimes these are stored in two different lots; the one for seed and the other for use. In either case the drying of the tubers is the first thing that must be done. External moisture in the slightest degree quickly causes decay when the tubers are laid together in a close place. An open shed is one of the best places for drying them when wet weather prevents their being exposed in the open air. They must be laid out thinly and should be turned over every day, or every other day at the furthest. When they are lifted out of the ground in dry weather little or no earth will be attached to them; but when lifted wet, as is sometimes necessary, much of the soil, especially if it is stiff, will adhere to them. This cannot be removed when it is damp so freely as when it is quite dry, so at first the roots should be spread out as they are lifted until they become somewhat dry, when they should be turned over and each of them rubbed with the hand to remove the soil. When the small tubers are separated for seed they should be laid aside at this time. After the tubers have become thoroughly dry there is no better way of preserving them than placing them in ridges in pits. The formation of the pit may soon be determined on. The spot on which it is to be made should be somewhat sheltered, and the ground must be quite smooth and clean; the bottom may be from 3 to 4 feet wide, the length being decided on according to the quantity there is to store.

Having decided on this, place a line along and notch out the shape of the pit with a spade. It is then ready for the Potatoes. They should not be laid close to the edge of the notch, but about 6 inches from it on each side. In a 3-foot-wide pit this allows a base for the tubers of 2 feet. From this width they must be built up in a triangular form to a sharp point or ridge. This work must be done on a sunny day. As the Potatoes are laid in a quantity of drawn straw should be at hand; a layer of this must be placed along each side against the Potatoes to the depth of 3 inches, and a crowning layer must be placed along the top. The straw should then be covered with 6 inches of soil from the sides. This should be dug out neatly so as to leave a trench along each side of the pit, and the surface of the pit itself should be beaten perfectly smooth and firm that all wet may pass into the side trenches freely. Sometimes a bunch of straw is

allowed to project here and there along the ridge with the intention of allowing vapour to escape; but these "straw chimneys" admit water, and probably do as much harm as good. In very severe weather it is often necessary to throw an extra covering of litter over the ridge. When stored early in autumn it is a good plan to open the pit once or twice throughout the winter, selecting a mild day for the purpose, and pitting afresh as soon as the Potatoes have been turned and the diseased tubers picked out. A sufficient quantity to serve for some weeks should be kept out, and as more are wanted they should be taken from one end of the pit, which should always be closed up as before as soon as they have been removed.

When Potatoes are retained throughout the winter in sheds or "Potato houses," a dry atmosphere must always be maintained, and the light must also be excluded. The temperature should never rise above 40°, as a higher heat induces the tubers to sprout, which must be guarded against.

Turnips may be kept in a perfect state of preservation in the same way as Potatoes. Carrots, Beetroot, Parsnips, Salsafy, and Scorzonera all require careful storing in winter. They may all be placed in one house, and under the same conditions. They should be dried after lifting, but not to an extent that will cause them to shrivel. They may be stored in a cool shed amongst sand; the latter should be moderately dry. A layer about 2 inches deep should first be spread along the bottom. A layer of roots must then be placed on this, when they should be covered with sand and another quantity of roots laid above this, and so on until the bin is formed. Too many should not be placed above each other—from eight to ten layers being sufficient. Wherever the slightest decay is suspected the whole should be turned over and the bad roots taken out. A high temperature causes the crowns to burst into growth; these growths should not be encouraged, but should be rubbed off at each turning.

Onions are always well worth looking after in winter. They are mostly ready for storing early in September. In dry weather they may be laid on the ground for a few days after they have been pulled up, turning them every dry day. In wet weather they should be spread out in an open shed, or some other place where air and sun can have access to them, but no wet. When the tops are dried up they are ready for storing in their winter quarters. They keep best in a cool dry loft or room of any kind where frost is entirely excluded. They may be spread out on the floor or shelves, or hung in nets. Sometimes they are strung together, and when this is the case they may be suspended from the roof. In whatever way they are stored they must be looked over frequently, as they are not exempt from decay.

Flower roots requiring to be stored during the winter are of a varied character. Perhaps the most common is the Dahlia. The stems of this plant should be cut off 2 or 3 inches from the root as soon as they are injured by frost or decayed. The roots must then be lifted with a fork, and covered over with dry hay or soil in the same place, or one similar to that in which the Onions are

stored. The roots are extremely tender, and a few degrees of frost will kill them. This must be strictly guarded against at all times. When Gladioli roots are lifted from the ground the stem when cut should be left about a foot long. The label of each one may be tied to the stem, and they may then be tied together in bunches of about a dozen and hung up in a dry room or shed; they may also be laid out on a shelf in the same kind of place.

Hollyhocks do not require so much protection. If planted in a cold frame when their stems are cut down, and covered up with sashes during severe weather, they will be found in excellent condition in spring. In sheltered situations they may be left outside altogether.

Referring to the more tender plants Caladiums are amongst the worst to deal with. They should not be ripened off too quickly. When the leaves begin to decay water should be given when needed until the roots are leafless. During this time and throughout the winter they cannot be safely preserved in a less heat than 55° or 60°. Underneath a stove stage or in a corner where heat is maintained is the place for wintering them. If the soil is moderately moist at the time the pots are stored away they will require no more water for some time, but the soil should never be allowed to become dust-dry, or the roots will shrivel and lose much of their vigour for the following season. Sometimes the bulbs are shaken out of the soil in which they have been growing and placed in sand throughout the winter, but when carefully looked after they keep quite as well in their pots. The same remarks apply to Gloxinias and Achimenes. The latter may be kept drier without injury in winter than most things. Gesneras may also be included as requiring the same treatment as these stove subjects. Many other roots might be named, but most of them survive the winter without any special treatment.—J. Muir.

### AUSTRALIAN GLADIOLI.

I SAW the other day in a contemporary a notice of what had been done in forcing the Gladiolus into bloom so as to give flowers in the months of February and March, and I should like to give my experience of what can be done with them in another way.

In the month of July, 1875, I received a courteous note from the Messrs. Lacy of Elizabeth Street, Melbourne, Australia, saying that they had forwarded to me a collection of twelve varieties of Gladioli of their own raising, which they believed to be equal to any of our European varieties, and asking me to try them, adding, "We hope that in 1877 you will be able to give us a good report of them. We have taken the standard prescribed in your book on the Gladiolus, and think the flowers are of good quality." A few days after I received the package through the politeness of the Messrs. Carter of Holborn, to whom it had been forwarded, and on opening it found thirty-six bulbs, some of which had already started some 2 or 3 inches. I immediately potted them singly in 32's and placed them out of doors, and was gratified to find in a few days that they were taking root and pushing away. I allowed them to remain until the end of September, when I placed them in my greenhouse. Here they grew until the end of February, when I dried them off. New bulbs had formed, but, as might have been expected, not of very large size—some about that of a shilling, and the largest about half a crown. In planting my beds in April I planted these small bulbs along with the others, hoping they might flower, and in this I was not disappointed; nay, more, so good were they that I exhibited two in the stand of twelve with which I gained the first prize at the Dover Show, beating my old rival and friend Mr. Edward Banks (not Baker) of Sholden. I thus managed to get two years out of one, and instead of being able to report on them in 1877 as Mr. Lacy expected, shall be able to do so in 1876.

Only a few of them have as yet flowered, but of some of these I can report very favourably. Sir Redmond Barry is a fine-looking spike of brilliant red colour with violet feathering. Rossini is of a most peculiar colour—a sort of velvety plum; I know of no Gladiolus quite like it. Venus is a grand-looking flower, white, very large and of great substance. Aurija, not so good. Katharina, a very fine-striped and mottled flower. The others have not yet flowered, and will come in with the Schillers, Beatrices, Sir John Franklins, and others of home-raising. There is one most desirable quality that these flowers possess—at the same time that the lowest flower opens the colours of the others show the whole way up, and in most of them I have had twelve flowers open at the same time, and

am very hopeful that another year when the bulbs have fair play that I may do even better with them.—D., Deal.

### EARLY APPLES.

"A NORTHERN GARDENER" has opened a subject, not only of interest but of utility, in his paper entitled "Early Apples." Since turning my special attention to pomology nothing has surprised me more than the indifference of so many owners and cultivators of gardens to the usefulness of Apples; not that they would not be willing to declare readily that the Apple is the most valuable of all hardy fruits, but they rest in this—are content with the trees they have, and do not by care and thought and culture make the Apple as useful as is possible. I leave out of consideration for the moment the great gardens, though my reasoning may apply even to them; but there are the little folks, the people with moderate incomes and moderate-sized gardens, and perchance orchards beyond the garden. Often useless trees are allowed to cumber the ground, or trees bought at a sale with no names, and which prove either indifferent sorts or more of one variety than are wanted. The extreme dryness and heat of the late summer and the scarcity of Apples, a scarcity caused partly by neglect in cultivation, may make gardeners more anxious to have a sufficient number of trees in future.

First, a word as to summer-eating Apples. The idea too general is that such are merely "school-boy fruit," and no doubt, as dealers well know, school boys, aye, and school girls too, are great and glad consumers of Juneatings, Early Harveys, and the like; but my experience goes to show that let early Apples of this character appear at dessert and dinner parties they are eaten. Later, when winter sets in, a dessert dish of eating Apples is scarcely touched, the same lot of fruit coming in day after day; then the Pear is preferred, the Apple being judged as hard and cold. Indeed, winter-eating Apples are not seldom chosen by their looks, as a dish of handsome Apples is very ornamental to a table, especially by candle light. Who has not seen and admired dishes of waxy, brilliant-complexioned Blenheim Oranges in a winter evening? but unless a group of children come in at dessert they are untouched. Not so the early eating Apples; let them only appear and be known to be ripe, they are relished extremely. A gardener at a great house will be deservedly popular in the school-room, the young ladies' room, and dining-room, who has a good supply ready of eating Apples during a hot July and August. This parching summer I see the papers have been recommending drinks made from Apples as both refreshing and harmless.

"A NORTHERN GARDENER" has specified and named three varieties—the Juneating, the Summer Golden Pippin, and the Devonshire Quarrenden. The first usually abundant in the smaller fruit shops, the second not generally seen, the last called in these parts the Sack Apple, grown everywhere in the west of England, and showing its rather tawdry cheek (it is not a refined-looking Apple) in every garden and orchard. These three need not be all. There is the Kerry Pippin, of pleasing regularity of form and good flavour, also very generally grown here, and well worthy of being planted everywhere. But the very best to my mind remains to be spoken of—the Irish Peach, better known in the east of England as the Early Crofton. Here we have an Apple fulfilling all the requirements of a dessert fruit. It is very beautiful, and has a flavour unsurpassed. What boy does not remember—if the tree were in his father's garden, or in some school-friend's father's (it's all the same to a boy)—the deliciousness on a hot August day of making his teeth meet in an Early Crofton, and the pleasant juice that gushed into his mouth? It was like eating and drinking all at once. And yet in hunting through each year at the fruit stand of a large and far-extending local show, I have only come upon one solitary dish of this beautiful and toothsome Apple; the Sack Apple, far its inferior in appearance and flavour, being everywhere. If the dryness of the past summer and the call for refreshing fruit result in planting more early Apple trees it will, I am sure, be well.

But there is another aspect of the early Apple question which demands attention. A very hot summer, such as the one we have recently passed through, causes the lesser fruits to be ripe all together. I had Gooseberries, Strawberries, Raspberries, and Currants, all ripe and over in a very short time. It was in vain to leave a portion of Gooseberries on the trees for later use, they simply dried up with the heat and became hard balls, the leaves at the same time dropping from the trees. What was to be done? Was the cook to open

the recently-closed jam pots? were preserves to be used which were prepared for winter's consumption? Here was August, aye, the end of July, and no fruit to use. Apple trees—the usual varieties—were not ready. I looked up at my Hawthorndens, they were not fit for use yet. I had the Worcester Pearmain, but it was only planted last autumn. How I wished I had been more provident years ago, and had planted some very early culinary Apples, as well as some very late sorts, towards which my prudential arrangements had tended.

I had written thus far when the postman, blessed man, specially on rainy Fridays (Journal-arriving mornings), brings my copy of "our J.," and there I read that capital article on useful Apples by "A MIDLAND FRUIT-GROWER."

Now, that said midland fruit-grower has by a proper retribution—a Nemesis will always arrive sooner or later—put me in the exact position I put a brother clergyman last winter. It was at a meeting to get the public-houses closed on Sundays. I spoke first and fully. My reverend brother came after, but he said I had made his speech. He meant to talk about the bottle in which the beer could be corked on Saturday night; he was going to mention "the comfort of the poor barmaids to take them from the atmosphere of stale beer and tobacco on a Sunday;" but I had done it, and so on, and so on, and so on. Now, "A MIDLAND FRUIT-GROWER" has served me in this cruel way. I had intended to speak of early culinary Apples, growing them dwarf and getting crops to pay us or please us, as the case may be, in a few years. Lord Suffield was to be mentioned, the Keswick Codlin also. The beauty of the Duchess of Oldenburgh was to have been glanced at, but 'tis all done by the "MIDLAND FRUIT-GROWER," who seems to have the power of knowing my intentions so far off. Is he a spiritualist? If so, what medium divined the inside of my mind? Well, I submit; I cannot help myself. My midland friend has written a capital paper, for am I not bound to think so as I was going to write just the same? However, jesting apart. Now that the subject of both early eating and cooking Apples is opened, perhaps the orchardist, amateur and otherwise, also any brother pyramid-growers, would give us their experiences as to the varieties of both kinds which they find to answer best. After the Hawthorndens (cropping by the way splendidly this year, though other sorts have failed grievously) it is easy to get a series until late winter and early spring; but what varieties are found ready earliest and of good flavour before the Hawthorndens are ready? What do growers of Early Julien say of that Apple, which has been strongly recommended to me by a great pomologist? What also of William's Favourite and of others? The point seems to be to get the very earliest and best.

"A MIDLAND FRUIT-GROWER" in alluding to "A NORTHERN GARDENER'S" article says, "He has confined his remarks to dessert kinds, and has mentioned a trio of undoubted value, omitting, however, in my opinion, other kinds at least equally good. It is not my intention to supplement the short list which he has given by enumerating other varieties of dessert Apples." Would he be so good as to alter his intention, and name the kinds in his mind? Then we should have a midland as well as a northern view of this matter.

Can anyone tell us the book name of the Apple called Domino? I see no such Apple is mentioned in Dr. Hogg's grand book on the subject—the "Fruit Manual?"—WILTSHIRE RECTOR.

### TEA ROSE MARIE VAN HOUTTE.

No words can be too strong in describing the beauty of this Rose, particularly at this season of the year. Here (Dorsetshire) it grows like a weed, puts forth great shoots erect in growth, thick firm wood, and at the end of each shoot are four fine flowers, while down the stem of each strong shoot are many other blooms. I took a large shoot or spray of this Rose (which contained ten fine blooms and as many buds) to a dinner party, and presented it to the hostess.

The combination of colours in this Rose is the most delightful that can be imagined—pale primrose or lemon-edged, and shaded with peach. At a small exhibition at Lyme Regis I showed a stand of six Roses (the regulation number), and a more beautiful one I never staged. The six contained magnificent specimens of three splendid varieties of Teas: Souvenir d'Elise, Catherine Mermet, and Marie Van Houtte. These created quite a *furor*. I was asked by many, and entreated by some strangers, to sell them a plant, and to give them buds of Marie Van Houtte. My reply was, I cannot buy enough of her, I cannot find nurserymen who can supply large numbers of Tea

Roses. I do not know why it should be so, except that the Tea Roses give so few buds, and you often have almost to destroy a plant to obtain them. I think it would be a good thing to present a testimonial to the raiser who sent out this Rose. Can any of your readers say who is the raiser? I cannot find his name in any catalogue. It would be a way of showing the French raisers that we can appreciate a good Rose, and are willing to show our gratitude in a practical way.

How is it, by the way, that our English nurserymen never send out a new Tea? Mr. Keynes, it is true, has sent out a sport from Madame Willermoz, but this is not a new Tea, as Letty Coles stands in the same relation to Madame Willermoz as Eve did to Adam. I should not be surprised, however, if Mr. George Paul does soon send us one, as he is working hard to do so.

Catherine Mermet is very beautiful here in the autumn, more so I think than in the summer. The Teas scarcely recover from the spring frosts in time for the summer shows, but by the autumn have made fresh bloom-bearing wood. They then give me most charming blooms, and are most valuable for the late shows.—WYLD SAVAGE.

### OUR BORDER FLOWERS—MARSH MARIGOLD.

In early spring, when flowers begin to put in an appearance, we hail with delight in many of our moist meadows, and by most brooks, the Marsh Marigold unfolding its beautiful golden



Fig. 29.—*Caltha palustris*.

cup-like flowers. There is no more brilliant sight than acres almost covered with those charming spring flowers. Though mostly found in wet spongy places they do not object to pot and border culture. They are but a small family, but we seldom meet with any of them in cultivation; in some select collections we find *Caltha palustris* flore-pleno, which is a most useful variety for all purposes that flowers can be used for. I find this a useful pot plant for indoor decoration as well as the moist border; it is a plant that continues in bloom for a long time, and is invaluable for cut flowers and for bouquets, likewise for the moist rockery. *C. radicans* and *C. minor* are handsome plants, and are worthy of more extensive cultivation than they are receiving; they will bear a good deal of rough usage.

We have more kinds of this charming race of plants from America and other parts of the world. They

are increased by seed sown as soon as ripe, also by division of the roots in the spring after blooming. They require at all times a plentiful supply of water. *Caltha palustris* does us good service as an aquatic in a large pot or pan. When the bloom is past the plants can be put in some moist corner until they are again required.—VERITAS.

### EARLY ROSE POTATO.

VERY common has it been of late to abuse this American introduction in respect of its bad quality, but for dry soils and districts I know no more productive and excellent variety. I observe, too, that at the late Show at Sandy the Early Rose won first honours for its excellence when cooked, which is the proper way of judging Potatoes. I have Potatoes now of this variety which are of unsurpassable quality, and quite equal to others which were grown in the same field of Paterson's Victoria. Early Rose is also a prodigious cropper, and has ripened its tubers this year sufficiently early to be lifted before the rains, which have caused such extensive supertuberation. I do not advocate the planting of Early Rose in rich and wet garden



ground, but in shallow soils in dry districts I regard it as one of the most profitable Potatoes that can be grown. So satisfied am I of its excellence that I should not hesitate to place properly cooked tubers in competition with those of any other variety, either of American or English origin. When the quality of Early Rose has been denounced I cannot but think that it has been grown in over-wet or over-rich soils, or the tubers have been imperfectly cooked.—A MARKET GROWER.

### AUTUMN PRUNING OF FRUIT TREES.

A SHORT time ago a suggestive letter appeared in your columns from Mr. W. Taylor on the desirability of the early winter pruning of fruit trees. It is no doubt wise to complete the pruning of fruit trees before Christmas, and in order that this may be done, and as further benefiting the trees, I would advise that the work be commenced in September.

One can scarcely visit a garden this year without being struck by two things—a scarcity of fruit and a superabundance of wood, especially on young trees—I allude now to orchard and pyramid trees of Apples, Pears, Plums, and Cherries. These trees having little or no fruit to exhaust or modify their strength have grown freely; their shoots are not only long but numerous, and must be considerably shortened and thinned during the winter months. But in the matter of thinning particularly, if it is necessary to remove the superfluous shoots in December, January, or February, it is, I urge, still more necessary to remove them now. If these shoots are not required for the permanent furnishing of the trees, why defer their removal to the dark days? It is a period of "dark days" now in the centres of many fruit trees, and surely by admitting light at a time when the foliage can benefit by it is preferable to admitting it when there is no foliage.

Further, by deferring the thinning of fruit trees to a time when they are denuded of their leaves it too often happens that the work is imperfectly done, and that after the thinning has been accomplished the branches yet remain too close and too numerous. It is all very well to say that gardeners can judge correctly in the winter season as to which shoots to cut out and which to leave in, and no doubt many can; but it is equally the fact that others err in leaving too much wood when they have not the foliage to aid them in forming a judgment of distances.

The real essence of pruning does not so much rest in a periodical shortening of the terminal branches of trees as in having those branches judiciously placed as to their distance from each other. If the branch of a fruit tree has sufficient space for the development of its foliage—that is, if its leaves can expand without touching the leaves on other branches—it matters little whether that branch grows to a length of 6 inches or 3 feet, it is almost sure to be in its nature and character a fruitful branch. Young branches of fruit trees which have full exposure to light and air are almost sure to form natural spurs, whereas if they are crowded they cannot do so; and no amount of shortening the branches in winter can render them fruitful, and even the thinning of them when long deferred is done too late to be effectual. The thinning of the branches of all kinds of fruit trees is a matter of prime importance, and if this work is properly done the question of shortening the extremities resolves itself into a simple matter of appearances—"putting the trees into shape."

If a practised man will now examine a vigorous-growing and crowded tree he will see at once that the branches are too numerous to remain as permanent fruit-bearers, and it is mentally resolved that the tree shall have "a good thinning" in the winter. But why not do the thinning now? Will the wounds heal less readily now than in winter? No. Can a better estimate be formed when there are no leaves to guide than when the foliage tells to a nicety when a tree is overcrowded? No. When overcrowding is visible, the evil being seen, can it be beneficial to suffer that evil to remain and increase? Surely no. Relieve, therefore, the overcrowded trees and relieve them at once. Let the foliage which is struggling for light, and by its efforts causing the darkness to be more dense, have light—life-giving, health-promoting, fruit-producing light. Light in winter when there are no leaves to absorb it is of little more benefit to a tree than are spectacles to a blind man. Afford aid, therefore, when aid can benefit.

Too often when thinning is deferred until the winter it is not half done. Thousands of trees tell us this in a way which cannot be mistaken. In the winter branches are removed and the tree looks thin, but wait until the foliage is expanded, and

the tree that "looked thin" in reality is thick, sealed alike against light and air—a banishment, as it were, of the elements which alone can promote fruitfulness.

The overcrowding of trees contributes more than anything else to the production of sappy and luxuriant branches. In desperate struggles for light branch competes with branch and leaf with leaf—both leaves and shoots increasing in size and numbers—struggling, as it were, to get out of the wood. Trees must and will have light, and if we do not guide the light to the leaves at one end of the branches they will stretch out and reach it by the other, and thus the elongation goes on which we call unnatural—unnatural growth. It is, however, really natural; nature, as it were, breaking through the rigid confines of art—the art of thick planting and pruning, which has resulted in the undue multiplication of branches.

It is not everyone who can correctly thin-out the branches of trees when they are leafless, but any intelligent person may thin them now, for he has the safe unerring aid of the foliage to guide him. Let him remove until the leaves on the remaining branches have room to expand, untouched by those of other branches, and admit the light to the very bases of the branches and centres of the trees. If this is done now the finishing touches at the winter pruning will be quickly given, and the trees will be in better condition than if their entire pruning were left to the leafless period—the "dark days" of winter.—A NORTHERN GARDENER.

### LESSONS OF THE SEASONS.—No. 4.

#### SPRING.

THE evils resulting from the excessive radiation of heat from glass structures have frequently excited my attention, especially at that season of the year when—

"Winter, lingering on the verge of spring,  
Retires reluctant, and from time to time  
Looks back; while at his keen and chilly breath  
Fair Flora sickens."

We erect buildings of glass and wood or metal, making them as light and airy as is compatible with strength, in order to throw as little shade as possible upon the interior, and to attract and transmit solar heat as readily as may be; they are, in fact, just so many "traps to catch a sunbeam," but unfortunately failing to keep it, or rather the heat arising from it, so long as is desirable, simply because it escapes, not so much through the crevices of the building as through the glass itself, which radiates heat so freely that a colder outside atmosphere invariably induces a chilling process, which on a clear frosty night acts with such rapidity as to render necessary a prompt and abundant supply of artificial heat to replace the waste arising in obedience to those natural laws by which the balance of Nature is maintained.

High wind is another cause of this loss of heat. The bitter north-east wind that was so violent and lasted so long in the early months of the present year swept with great force round every building, entering every crack and fissure, and playing upon the exterior with its icy breath—so cold, so cutting, and so keen as to render the maintenance of a steady interior heat a difficult and costly affair. We may suffer the temperature of a stove or viney at work to fall 10° or 12° below its ordinary point on a stormy night without hurt to the plants or Vines, but when the wind continues to blow strongly and coldly week after week there is nothing for it but to throw in the fuel and stir up the fires—really to combat force with force, not but that such a contest is a thing to deplore, and which we would gladly avoid were it possible to do so, for no growth is equal to that upon which bright skies smile and soft fresh air plays. We cannot, however, reckon upon securing much of these great boons of Nature in early spring—the old dame's smiles are then too treacherous to be trusted; to-day the sun may shine and "the wind blow soft and fair," but the morrow's dawn may break upon a hurricane of snow and wind.

The early viney in almost every garden has one end facing the east, the early house being put at the eastern end of a range in order that the Vines may derive as much benefit as possible from the sun; yet when the building is designed due weight is not often given to the fact that the east end is the most exposed to cold winds in spring—no attempt is made to introduce any special feature there to resist the sweep of the cold air which comes rushing against the building with great force, often at a critical period of the Vine's growth; but we find there the same materials and workmanship—good or bad, and, what is worse still, a door unguarded by screen or porch

of any sort. Imagine the effect of opening that door in a high wind, when there is a difference of 40° or 50° between the temperature outside and in the house! But even if the door is kept close at such a time there must still be a considerable amount of heat lost, not only through the crevices of the door and its frame, but also by the excessive radiation going on over the entire surface of that end of the vinery, all of which would cease if a glazed casing was attached to it sufficiently wide for the door to open, and with an outer door, not placed opposite the other, but in the front of the casing, so as to avoid cold draughts.

Before attempting to check radiation from the roof or any other part of a glass house it is important that we should thoroughly understand what radiation is, for if we fail to comprehend it we may end in something worse than a mere failure, and find ourselves promoting that which we designed to check. Simply stated, radiation is that throwing-off of heat which is constantly going on in all bodies or substances that are heated above the temperature of the surrounding atmosphere. To prevent this escape of radiated heat we have only to spread some thick substance, such as canvas or matting, upon a light framework slightly elevated above the building or body whence the heat proceeds, and we not only intercept it and check its radiation, but we envelope it in warm air. If, however, we suffer the covering screen to touch the heated substance or lie upon the building itself, it would, like the glass, simply absorb and radiate heat into the colder air. Whether a complete covering for a vinery is practicable or not I need not discuss here, my aim being rather to show how such a covering should be used, and the great benefit to be derived from it.—EDWARD LUCKEYRST.

### TWELVE ROSES, ANY VARIETY.

THIS class is very generally neglected at our shows, and sometimes omitted from the schedule altogether. Often, when included, insignificant prizes are offered. On the other hand, there seems to be a growing tendency to offer prizes for twelve blooms of certain specified varieties, named beforehand in the schedule—e.g., twelve blooms of Duke of Edinburgh, twelve blooms of La France, &c., these classes being for the most part open and the prizes not high.

Now, firstly, when the schedule is formed it is quite uncertain whether the season will be a favourable one for this or that variety, so that these classes frequently produce no competition worthy of mention. I need hardly point out to exhibitors how different years are sure to be favourable to particular varieties and unfavourable to others. Secondly, I venture to think that few amateurs can make sure a week beforehand of staging twelve blooms of any specified variety, and the practice of entering for classes in which it is doubtful whether you will compete is certainly to be avoided.

On the other hand, most amateurs of any considerable pretensions could stage a creditable twelve of some variety when it comes to the point, and it not unfrequently happens that A or B may grow some less-known or weak-growing variety especially well. It is not very often that we see Edouard Morren shown at his best, yet at one of the shows this year I could have staged twenty-four blooms of that variety which would have surprised its depreciators. The reform that I would advocate is to abolish these classes for twelve blooms of Duke of Edinburgh, twelve blooms of La France, &c., and substitute two classes: 1, twenty-four blooms (any variety), nurserymen; 2, twelve blooms (any variety), amateurs. The prizes must be good, and there should be not less than four in each class. Exhibitors should be encouraged to stage more than one twenty-four or twelve if able to do so, and I would advise that they should be allowed to take as many prizes in the class as they can, of course for different varieties. I believe that these classes would be largely supported and greatly add to the attractions of our shows.—T. H. GOULD, *Mortimer*.

### THE CRYSTAL PALACE AUTUMN SHOW.

WHAT evil genius has presided over the preparation of the schedule of the Company, and what can be the motive of the Manager for putting it before the gardening public? Is it to display the poverty of the Company—to show how the mighty are fallen, and to degrade their Exhibitions into a mere provincial matter? Would it not be better, if they do not pay, to abandon them altogether? It is to be a three-days Exhibition, the last day being Saturday; no exhibits can be removed

until five o'clock on that day, and consequently to those from a distance it must involve remaining over Sunday. Mr. Coleman, for instance, of Eastnor in Herefordshire, who has been a regular exhibitor, cannot possibly reach home that night. And what do they offer for a collection of fruit of ten dishes, which will include Grapes, Peaches, Nectarines, and Figs, all perishable fruit? £5! and not one dish would be fit to put upon the employer's table when they return home, nor fit to send to Covent Garden for sale except at a ruinous loss. Turning to flowers I find £2 offered for forty-eight Dahlias, and £3 for thirty-six Gladioli. Is it likely that any but third-class exhibitors will be found with such prizes? It is possibly too late now to alter, but I am not surprised to find that many of their supporters decline accepting their munificent offers, and I fancy there are many who, like myself, will sign themselves—A FORMER EXHIBITOR.

### JUDGING VEGETABLES.

WE cannot attend two horticultural exhibitions in town or country where vegetables are a special feature without being struck by the different tastes and prejudices of those who award the prizes, and seeing what a lottery the whole affair is with exhibitors. Even in the same show-ground, at times where there are different judges for separate sections, great contradictions may be witnessed. A dish of vegetables may pass unnoticed in the cottagers' section, which had it been exhibited by an amateur might have unanimously received a first prize, and *vice versa*; also the kind of produce favoured one season may be thought much less of another season when a different set of judges are officiating. Now I do not maintain that cottagers' produce should be judged by exactly the same standard as that of gentlemen amateurs. With the latter quality should be the only test, but in judging the former a little leaning should be made towards those sorts of vegetables and that mode of culture which produce a great quantity. I do not mean to encourage coarse-growing vegetables and altogether ignore quality, there is already too much of that, but for a poor man there is no reason why he should be taught to gather his Peas when only half grown, or Vegetable Marrows when only as thick as his wrist. Both of these vegetables are quite as good to his palate when grown larger, and are far more economical. But there ought to be more consistency and agreement between different exhibitions and different judges. A man when exhibiting in any class ought to be able to form an idea of the kind of produce which will be favoured or otherwise. The exhibitions defeat their own aims. A practised hand can do this to a certain extent with fruit and flowers, because there are recognised standards of excellence amongst judges, and also, perhaps, there is more caution exercised in selecting the judges. Almost every lady and gentleman knows, or at least they think they know, something about judging fruit and flowers, and therefore they know something of the difficulties the judges have to contend with; but judging fruit and flowers is child's play compared with judging vegetables when it is done carefully and honestly, and good judges of such things are extremely few, whilst those who may be called good judges hold very different views, and there is anything but consistency in their awards.

It is, therefore, with the view of ventilating the subject, and the desire of coming to some agreement as to the way in which vegetables should be judged, that I pen these remarks. Generally, I believe, outward appearances count for too much. In my own practice I use the knife unsparringly, and I maintain that nobody can judge correctly such things as Beetroot, Celery, Potatoes, Turnips, or Vegetable Marrows without it, and when a decision has to be made on very fine points I would use it for several other vegetables. There is not so much difficulty with collections of vegetables when limited to a certain number of sorts, as they always should be, but it is when Carrots are shown against Carrots, Celery against Celery, &c., with, perhaps, twenty dishes so much alike that to the general public there is not a pin to choose, and the judges themselves are sorely puzzled, that the knife comes to the rescue, and very soon brings the really good within narrow limits. Having decided to use the knife, we next come to consider the points of excellence or otherwise revealed by it, for things are now altogether changed. Those very fine heads of Celery which everybody declared to be perfect are seen to have bolted half way up; that pair of nicely matched, beautifully shaped Vegetable Marrows is found to be all seeds, and the woolly material or the flesh is extremely coarse; Potatoes so even in size, and

with scarcely a visible eye, are found to be yellow in flesh, and, perhaps, overgrown and black in the centre.

Outward appearance is very commendable, and when judging flowers it should receive every encouragement, but we must remember that vegetables are grown to be eaten, and should be judged accordingly. We want good appearance, but we must not have it at the expense of quality. Our Warminster friends through the shrewdness and liberality of Mr. Joseph Smith have come to acknowledge this, so far as the most popular vegetable is concerned, and offer prizes for the best dishes of cooked Potatoes, and a most interesting class it is; the difference in the appearance of the different dishes is marvellous, and there is no difficulty in awarding the prizes.—WM. TAYLOR.

## DUNDEE INTERNATIONAL HORTICULTURAL EXHIBITION.

SEPTEMBER 7TH, 8TH, AND 9TH.

INTERNATIONAL horticultural shows have become quite common in Scotland of late years, but hitherto they have been confined to Edinburgh and Glasgow. This is the first time that an "international" has been held further north than either of these cities. Dundee is only second to Glasgow for commerce in Scotland, and the inhabitants number close upon 150,000. Proceeding to it *via* Stirling and Perth the scenery is exceedingly picturesque, especially when passing through the Carse of Gowrie, where the ground is well adapted for high-class farming and fruit-growing. Apples, Pears, and such-like fruit appear to be a much more abundant crop there than in the south.

Dundee has long been celebrated for the excellency of its autumn shows, but the very best of their former exhibitions was entirely eclipsed on this occasion. As was stated at p. 194 prizes were offered amounting to about £1000. The classes numbered 206, and there were 2927 entries. Two very large halls and an extensive marquee could barely contain the immense number of exhibits, and so far as the various horticultural productions were concerned the Exhibition was quite a success, but the arrangement of the Committee was far from encouraging. It was late before many of the Judges arrived on Wednesday night, and no arrangement whatever had been made for their accommodation. Each one was told to find shelter where he liked. Any exhibitor who wanted to see his products next morning had to pay 5s. for admittance. Even nurserymen from London, to whom the Committee were greatly indebted for the success of their Show, were treated in this short-sighted manner. At Edinburgh and Glasgow the Judges were always accommodated together, and all gardeners had the appreciated privilege of seeing the Show at a very cheap rate before the public were admitted, but no such liberality characterised the Dundee gathering. The luncheon tickets were 15s. each, which placed what might have been a sociable meeting to many gardeners quite beyond the reach of ordinary people. No doubt this is a paying way of doing things at present, but on a future occasion it is more than probable that it will be found to be a penny-wise-and-pound-foolish system.

That munificent patron of horticulture, the Earl of Strathmore, Glamis Castle, opened the proceedings with a speech, in which he remarked that the wish he expressed two years ago to have an international show in Dundee had been speedily realised. They had disadvantages in the northern climes which southern competitors had no cause to complain of, and it was overcoming these disadvantages which had made Scottish gardeners so successful and distinguished in their profession. He hoped the Show would be the means of increasing in many the desire to encourage horticulture, as he thought there was no science more worthy to be encouraged than this.

It may be stated that the Show was not equal to other shows which have been held in Scotland. Comparison was rife, and locally it was asserted to be the best exhibition that had ever been seen in the kingdom, but this was not the case. Taking the Grapes altogether, they were inferior to what was at any of the Edinburgh Internationals, and collections of fruit and Pines were not so numerous as at previous exhibitions.

**COLLECTIONS OF FRUIT.**—For the twenty varieties there were only three competitors. The first prize (£15) and a gold cup valued at £20, presented by the Earl of Strathmore, was won by the Earl's own gardener, Mr. Johnston, Glamis Castle. His Grapes were superb, and consisted of Muscat of Alexandria; a neat bunch, very large in berry, of Madresfield Court; Lady Downe's, fine; Buckland Sweetwater, which is always shown in grand condition from Glamis; excellent Black Hamburgs; two small but well-formed and ripened Smooth Cayenne Pine Apples; Lord Strathmore and Meredith's Hybrid Cashmere Melons; Elruge, Duc de Telliers, and Pitmaaston Orange Nectarines; Gros Mignonne and Red Magdalen Peaches; Jargonelle Pears; Morello Cherries; Victoria, Jefferson's, and Green Gage Plums; Shipley's Apricots, and Stirling Castle Apples. The strongest part of this collection was the Grapes.

Peaches and Nectarines were not of the largest size, but were finely coloured. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, who is a young exhibitor of considerable promise, was second. His collection was composed of excellent Canon Hall Muscats, Madresfield Court, Foster's White Seedling, Black Hamburgs, and Muscat of Alexandria Grapes; one Smooth Cayenne and one Queen Pine Apple, a Victory of Bath (green-flesh), and a Hero of Bath (scarlet-flesh) Melons; Violette Hâtive and Princess of Wales Peaches; Victoria and Violette Hâtive Nectarines; Moor Park Apricots, Morello Cherries, Imperial Gage and Jefferson's Plums, Jargonelle Pears, and Brown Turkey Figs. The Grapes here were inferior to the first, but many of the other fruits were equally good. The third prize was awarded to Mr. Donald Matheson, Meikleour, Perth, for a collection in which there were some very good Foster's Seedling, Black Hamburg, fine Black Alicante, Muscat of Alexandria and Lady Downe's Grapes; small Queen Pine Apples, Golden Perfection and Emerald Isle Melons, Jefferson's and Kirk's Plums; Rivers's crimson Galande, Belle Beaunce, and Noblesse Peaches, Elruge and Violet Musqué Nectarines, Moor Park Apricots, White Marseilles Figs, and Louise Bonne of Jersey and Beurré d'Amanlis Pears. Some considered this collection equal to the second, but many of the small fruits were not perfectly ripe. Owing to Mr. Johnston carrying off the cup, the Earl of Strathmore decided on presenting Mr. Goodacre with one of equal value. It is to be regretted that there was not more competition for the handsome prizes offered in this class.

For the collection of fifteen sorts of fruit, Mr. Upjohn, gardener to Lord Ellesmere, Worsley Hall, Manchester, was easily first. His Grapes were not large in bunch but were finely finished. The Gros Colmans in this collection were the best of this variety in the hall, and the only bunches of Waltham Cross which were exhibited were staged here. They were barely ripe, but the berries were well swelled and very equal in size. The Black Hamburg and Muscat of Alexandria Grapes were also good, and the remainder of the collection was composed of Queen Emma and Methven's Early Gem Melons, Hardwick's Seedling Nectarines, Bellegarde and Violette Hâtive Peaches, Guthrie's Late Green and Kirk's Plums, Fondante d'Automne Pears, and Golden Pippin Apples. This was a first-rate collection. Mr. McDonald, gardener to J. Paterson, Esq., Kinnettles, Forfar, came second. The Smooth and Queen Pine Apples were not large, but the Black Alicante Grapes were well finished, and Royal George Peaches were also in good condition. Mr. John Thomson, gardener to the Right Hon. Lord Rollo and Dunning, Duncrub, Perth, was third.

Mr. Dickson, gardener to J. Whyte-Melville, Esq., Mount Melville, St. Andrew's, Fife, was first for ten varieties of fruit. Golden Champion and Duke of Buccleuch were well represented here. The former was as near free from spot or blemish as possible. The Barrington and Noblesse Peaches were also fine, but Oranges constituted a dish that might have been replaced with advantage by some other fruit. The second prize was awarded to Mr. McConochie, gardener to A. Smollet, Esq., Cameron House, Dumbarton. The Grapes were excellent in this collection. A finely coloured bunch named Muscat of Alexandria had a greater resemblance to Buckland Sweetwater than anything else. The Lady Downe's were well finished; and a Melon, the Colston Basset variety, was an excellent fruit. Mr. D. Ross, St. Martin's Abbey, Perth, was third, his Black Hamburgs being well coloured but small in berry. The Noblesse Peaches were the best amongst the stone fruit, and the Golden Perfection and Reed's Hybrid Melons were fair samples. For the collection of eight varieties of hardy fruit Mr. Fairgrieve, gardener to the Dowager Duchess of Athol, Dunkeld, was first; Mr. A. Stewart, Glendrick, second; and Mr. McDonald, Kinfauns, third. Victoria, Kirk's, Jefferson's, and Golden Drop Plums were conspicuous in all these collections.

**GRAPES.**—There was an immense quantity of Grapes shown. As at previous Internationals the eight-variety class, one bunch of each, was the great centre of attraction. The first prize for these was £15 and a gold medal (£5). Here again Mr. Johnston of Glamis secured the first place. His bunches were even superior to those he had in the collection of twenty sorts. One of the most perfectly finished bunches of Black Hamburgs that has ever been exhibited was in this lot. The bunch was not so extraordinarily large, but the berries were splendid, and not a speck of anything had disturbed the bloom. The other varieties were Lady Downe's, Chasselas Napoleon, Royal Vineyard (a sort not often cultivated), Madresfield Court (extra good), Muscat of Alexandria, Burchardt's Prince, and Black Alicante. There was not the slightest perception of decline from Mr. Johnston's previous high standing in one of these bunches. Mr. Hunter, gardener to the Earl of Durham, Lamton Castle, was placed second. His varieties were Calabrian Raisin, Black Alicante, Burchardt's Prince, White Tokay, Black Hamburg, Barbarossa, Muscat of Alexandria, and Trebbiano. Every one of these bunches was of the same enormous size that Mr. Hunter has always been in the habit of showing. They only lacked one important particular, and that was colour. Another fortnight

or three weeks would have placed them in a different position. Mr. Reid, gardener to A. H. Moncur, Esq., Rockfield, Dundee, came third with small well-finished bunches of Gros Colman, Lady Downe's, Muscat Hamburg, very fine; Buckland's Sweet-water, Black Hamburg, Muscat of Alexandria, and the worst ripened bunch amongst the lot, a greenish Mrs. Pince. Mr. G. Kidd, Megginch, Errol, was competing for the eight sorts and received an extra prize of merit, having some good Black Hamburgs, Lady Downe's, Muscat Hamburg, and the finest developed bunch in the Show of Buccleuch.

Mr. P. Stewart, gardener to Charles Tennant, Esq., The Glen, Peebleshire, had no difficulty in securing the first prize for four sorts of Grapes. Good fruit is always expected from Mr. Stewart, and we were never further from being disappointed than on the present occasion. His four bunches—Mrs. Pince, Muscat of Alexandria, Black Hamburg, and Trebbiano—were rare examples of good culture. Mr. A. Bruce, gardener to J. Field, Esq., Chorlton-cum-Hardy, Manchester, who is a regular exhibitor at the Internationals, was second. His bunch of Bowood Muscat was excellent, and so was his Duke of Buccleuch, Barbarossa, and Madresfield Court. The third prize was awarded to Mr. Kettles, gardener to Lady Mary C. N. Hamilton, Archerfield, with a good bunch of Muscat of Alexandria, Gros Colman not well coloured, a fair bunch of Barbarossa (Gros Guillaume), and another of Black Alicante.

Mr. Johnston, Glamis, was first for two bunches of Black Hamburgs. These were a splendid pair, nearly equal to the one referred to in the eight varieties. Mr. Stewart was second with a pair very little inferior to the first, and Mr. Dickson was third.

For two bunches of Muscat Hamburg Mr. D. Fowler, gardener to P. Swan, Esq., Cupar Fife, came first with good-sized bunches but small in berry, and in these, as well as in the second-prize two from Mr. Morrison, the colour was deficient.

Mr. Bruce was first for two bunches of Madresfield Court, and Mr. W. Watson, gardener to A. Gilroy, Esq., Dunalstair, second with fine-formed bunches. There is no doubt Madresfield Court is a grand variety for exhibiting if it is cut immediately it is ripe.

Mr. Hammond, gardener to Sir Wilfred Lawson, Brayton Castle, Carlisle, secured the first place for two bunches of Black Alicantes, with the finest samples of this variety in the Show. They were jet black and finely covered with bloom. Mr. Maul, Renfrew, was second; and Mr. Goodal, gardener to Mrs. Raffin, Houisa House, Edinburgh, third.

For two bunches of Lady Downe's, Mr. Johnston was first with fruit showing a shade of green about the footstalk. Mr. Steel, Dundee, came second; and Mr. Morrison third. For the same number of Mrs. Pince Mr. Bruce was placed first, Mr. Stewart second, and Mr. Reid third.

The next prize is a rather important one, being for two bunches of Muscat of Alexandria. In this Mr. Stewart came in before Mr. Johnston with two grand-shaped and developed bunches, just a shade greener than the first.

For two bunches of the Duke of Buccleuch, which was exhibited in many parts of the hall, Mr. Ballantyne, gardener to J. T. Smith, Esq., Duloch House, Inverkeithing, Fife, has been awarded first. His bunches were large and clean, and not quite so green as the second-prize two from Mr. Dickson, St. Andrew's.

For two bunches of any sort of white Grape Mr. Goodacre came first with splendid Golden Champion; Mr. Hunter being second with two fine bunches of Foster's Seedling; and Mr. Greig, gardener to R. Christie, Esq., Craigend Park, Edinburgh, third with Chasselas Napoleon.

For single bunches of Grapes Mr. Steel was first for Black Hamburg, and the same for Black Alicante; Mr. Bruce being first for Lady Downe's; and Mr. W. Goldie, gardener to R. Kerr, Esq., Irochragna, had the same position for Barbarossa. For one bunch of Golden Champion some excellent bunches were shown by Mr. Dickson, Mount Melville, Mr. Bruce, and Mr. Greig.

The large bunches have degenerated considerably from what they were last year. In fact, the "champions" had a narrow escape of securing an "ex" to their designation; there only being 2 ozs. between the Barbarossa bunch of Mr. J. Dickson, Arkleton, and the one of the same variety from Mr. Hammond of Brayton Castle; their bunches weighing 10 lbs. 2 ozs., and 10 lbs. The heaviest white came from Mr. Carron, gardener to G. Douglas, Esq., Eskbank, who exhibited a bunch of Trebbiano 16 lbs. 2 ozs., while Mr. Dickson was second with a White Nise exactly 2 lbs. lighter. None of these "big bunches" were ripe.

There was one or two seedling Grapes sent for the opinion of the Judges, but none of them was considered worthy of notice.

**PINES.**—These would number about a score. Some of them were not half ripe, others half rotten. Mr. Goodacre was first for two Queens, his fruit being good although rather short. They would weigh about 3½ lbs. Mr. Kettles, Archerfield, was second. One of his fruit was over 5 lbs., but the other one was not quite so good and somewhat green. Mr. A. Jamieson, gar-

dener to the Earl of Crawford, Haigh Hall, Wigan, was awarded first for two Smooth-leaved Cayennes with somewhat small but well-shaped fruit.

In the class for weight Mr. Peacock, gardener to J. Bruce, Esq., Castledykes, Dumfries, was first with a Providence, said to weigh 11 lbs. 2 ozs. It was much disfigured through having a number of crowns. Mr. G. Wyness, Usan House, Montrose, was second with a finely grown Queen, which would weigh upwards of 6 lbs. These are all that are worth mentioning. This department of the Show was not a great success.

**MELONS.**—These were largely shown, some beautifully netted fruit being amongst them. Very few of them were named. In the green-flesh section Mr. Farquhar, gardener to Colonel Gordon, Fyvie Castle, Aberdeen, was first with a variety named Haddo House, Mr. McConochie being second, and Mr. Bowman, gardener to Lord Deas, third with Princess Alexandra. Mr. Farquhar was also first for the scarlet-flesh with a fine fruit of Little Heath, and Mr. Montgomery, gardener to the Earl of Breadalbane, Taymouth Castle, was second.

**PEACHES, NECTARINES, AND APRICOTS.**—Peaches were a fair show, but the fruit was not all of a first-class kind. For twelve fruit in two varieties Mr. W. Brown, Kilmarnock Castle, was first; Mr. J. Leyden, Rosewell, Edinburgh, second; and Mr. J. Combe, Glencarse, third. For six Mr. Dickson, St. Andrews, came first, and Mr. Halliday, gardener to the Earl of Mansfield, second. The varieties were chiefly Barrington, Royal George, Noblesse, and Salway.

Nectarines were numerous and an excellent show. Mr. D. Fowler was first for the twelve; Mr. Methven, gardener to Col. Campbell, Blytheswood, being second; and Mr. D. Lamond, Arthursstone, Meigle, Forfar, third. In the class of six Mr. Fowler was placed first; Mr. Macdonald, Kilfauns, second; and Mr. J. Loudon, Chirk, Salop, third. The sorts were mostly Elruge and Pitmaston Orange. Mr. Kidd was first for twelve Apricots, Mr. Methven second, and Mr. McDonald third. Moorpark was the leading variety.

**APPLES, PEARS, AND PLUMS.**—Apples made the finest display in this section. For a collection of twenty sorts Mr. Kidd was first with an excellent assortment, among which we noticed some fine fruit of Irish Peach, Small's Admirable, Cox's Orange Pippin, Duchess of Oldenburgh, New Hawthornden, Lord Suffield, Tower of Glamis, Ribston Pippin, and Stirling Castle. Mr. Mathew was second. In his collection the following were of more than ordinary merit—White Codlin, Warner's King, Lady Johnston, Pent Stoup, and Blenheim Orange. Mr. G. Edgar, Crossgar, Co. Down, came third; Nonpareil, Early Almond, Golden Noble, and Nelson's Glory being noteworthy. In six Apples for weight Mr. Grey, gardener to Sir J. A. Cathcart, Killochan, Ayr, was first with very large fruit of Lord Suffield. This fine variety was extensively shown.

Pears excepting Jargonelles were poor. Mrs. Gellender, Denton, Newcastle, was first for twenty sorts; and Mr. J. Cairns, gardener to the Earl of Home, Hirsell, Coldstream, was first for the six heaviest fruit.

Plums were staged in good order. For three varieties, four of each, Mr. Fairgrieve was first, Mr. McDonald second, and Mr. McConochie third. The sorts were Jefferson's, Victoria, Kirk's, Coe's Golden Drop, and Washington.

There were some fair dishes of Castle Kennedy, Brown Turkey and other Figs. For these Mr. Halliday was first; Mr. W. Milne, Woodhouse, Leicester, second; and Mr. Bruce, Manchester, third.

**PLANTS.**—The collections formed by far the most attractive feature in the Show. The group from Messrs. Veitch & Sons, Royal Exotic Nurseries, Chelsea, London, filled a wide side stage about 40 feet in length along the side of the principal hall. A more splendid collection of new, rare, and beautiful plants was never witnessed in Scotland. They were arranged in a most artistic manner, and the whole was as near perfection as could possibly be imagined. The Nepenthes were such as Messrs. Veitch alone can show. *N. Hookerii*, *N. Chelsonii*, *N. hybrida*, *N. Sedeni*, *N. Rafflesiana*, and many others were entirely surrounded with fine pitchers, and their size, especially of the last-named, was most remarkable. *Croton Mooreana*, *C. majesticum*, *C. Youngii*, *Oncidium concolor*, a well-bloomed *Cattleya elegans*, *Ixora Dixiana*, *Lapageria alba*, *Anthurium Veitchii*, *Oncidium tigrinum*, *Cypripedium Sedeni*, one of the finest plants in the country of *Croton Disraeli*, *Odontoglossum bictonense roseum*, with nine flower spikes; *Phyllanthus roseum pictum*, and *Odontoglossum Insleyii leopardinum* are only a few of the many splendid plants in this fine group.

The collection from Mr. B. S. Williams, Victoria and Paradise Nurseries, Holloway, London, occupied the same position on the opposite side of the hall. There were many excellent plants here, several of them being much larger than in Messrs. Veitch's group. Mr. Williams is well known as an exhibitor at all horticultural gatherings of note, and his plants in the present instance were quite up to their usual high-class order. Particularly noticeable in this collection were some excellent specimens of *Dracena Baptisii*, *D. Hendersonii*, *Ixora floribunda nana*, the



white-spathed *Anthurium*, *Croton majesticum*, *C. pictum*, *Araucaria robusta glauca*, *Reidia glaucescens*, *Nepenthes Dominiana*, *N. Rafflesiana*, *N. intermedia*, *N. ampullacea*, *Gleichenia Mendelii*, *Adiantum amabile*, *Nerine Fothergillii major*, *Darlingtonia californica*, *Allamanda grandiflora*, *Demonocrops palembanica*, *Alsophila australis Williamsii*, &c.

Messrs. Ireland & Thomson, Craigleith Nurseries, Comely Bank, Edinburgh, had a group of small but exceedingly healthy and excellently-grown stove plants. Amongst these there was a grand plant of one of the finest of Palms, *Geonoma gracilis*, a good *Cocos Weddelliana*, *Aralia Veitchii*, *Dracena Taylori*, *D. hybrida*, *D. elegantissima*, *Croton Disraeli*, *C. Mooreana*, *Begonia Acme*, *B. Kallata*, *Adiantum gracillimum*, *Artocarpus laciniatus metallicus*, the beautiful light Fern *Nephrolepis davallioides furcans*, &c. This select group showed more of the first-class London style of exhibiting than we are accustomed seeing in Scotland, and it was highly creditable to this "young firm" of exhibitors. A very fine collection of choice Conifers came from W. Barron & Son, Elvaston Nurseries, Derby.

**NEW PLANTS.**—For twelve plants not yet in commerce Mr. W. Bull, new plant merchant, London, was first with some beautiful plants, the finest of which were *Croton gloriosa*, *C. Chelsoii*, *C. princeps*, *Dieffenbachia amena*, *Curmeria Wallisii*, *Zamia princeps*, *Dracena Goldieana*, *Sadleria cyathoides*, *Philodendron Boltoni*, and *Catakidozamia nobilis*. Mr. B. S. Williams was second; in his group being *Croton Queen Victoria*, *C. Williamsii*, *Adiantum digitatum*, very attractive; *Maranta Henryii*, *Davallia Youngii*, *Kentia Mooreana*, *Araucaria Goldieana*, and *Platynerium Wallickii*. Messrs. J. & R. Thyne, Glasgow, were third; the best amongst theirs being a new *Todea*, a dark-leaved *Betris Baronii*, and *Aralia caledoniana*.

**STOVE AND GREENHOUSE PLANTS.**—For twenty plants Messrs. J. & R. Thyne were first with some excellent plants of *Cycas revoluta*, *Cocos Weddelliana*, *Croton Youngii*, *Dracena Baptistii*, *D. Veitchii*, *D. Sheppardii* (a grand plant), *Allamanda Wardleyana*, *Erica Marnockiana*, *Maranta zebrina*, *Rhynchospermum jasmynoides*, *Eucharis amazonica*, &c. John Stewart & Sons, Broughty Ferry, Dundee, were second; and James Cocker and Sons, Sunny Bank Nurseries, Aberdeen, third.

Messrs. J. & R. Thyne were first with ten exotic Ferns; two of the best plants being *Adiantum farleyense* and *A. acuminata*. *Clematis* were poorly shown, but the plants for dinner-table decoration were excellent. They were arranged in a row along the centre of both the long fruit tables. In the nurserymen's class for twelve plants Messrs. J. & R. Thyne were first, their plants being *Croton Disraeli*, *C. hybrida*, *Geonoma gracilis*, *Pandanus Veitchii*, *P. elegantissima*, *Dracena gracilis*, *D. terminalis*, *Aralia leptophylla*, *A. caledoniana*, *Reidia glaucescens*, *Panax excelsa*; Mr. Wm. Paul, Crossflat Nurseries, Paisley, being second; and Mr. J. Sutherland, Lenzie, Glasgow, third. There were many entries in this class, and the plants were all in 6-inch pots and from 12 to 18 inches high.

The principal plant prize in the gardeners' class was for twelve stove and greenhouse plants. In this Mr. H. Thorner, gardener to T. M. Shuttleworth, Esq., Howick House, Preston, was first. His plants were mostly large well-grown specimens of *Anthurium Scherzerianum*, *Gleichenia speluncæ*, *G. Mendelii*, *Statice profusa*, *S. imbricata*, *Ixora coccinea*, *Phormium Colensoi variegata*, *Allamanda nobilis*, *Cycas circinalis*, &c. Mr. Todd, gardener to A. B. Stewart, Esq., Lonsdale, Glasgow, was second, his twelve including well-grown plants of *Davallia Mooreana*, *Erica retorta major*, *E. Marnockiana*, *E. Anslina*, *Lapageria rosea*, *Ixora Williamsii*, *Statice macroptera*, and *Clerodendron Balfourii*. Mr. R. McMillan, gardener to J. Germond, Esq., Carbet, was third; good *Ericas* and *Crotons* being prominent in his lot.

Mr. Todd was first for six exotic Ferns, with large plants of *Todea superba*, *Lomaria gibba*, *Gleichenia speluncæ*, *G. flabellata*, *Davallia hemiptera*, and *Cibotium regale*. Mr. D. Middleton, gardener to T. A. Smeaton, Esq., Broughty Ferry, was second; and Mr. G. Reid third. For six stove and greenhouse plants Mr. Wilson was first; and for nine stove or greenhouse plants Mr. Todd secured the same place; while Mr. H. Thorner was second, and Mr. Wilson third. For three *Heaths* in bloom Mr. McMillan was first, and Mr. G. McLennan, gardener to R. W. Duff, Esq., Feteresso Castle, Kincardine, second, some of the plants being past their best. For three *Crotons* Mr. Thorner came first, Mr. Hammond second, and Mr. McMillan third, all their plants being well grown and highly coloured. Messrs. J. Stewart & Sons, Broughty Ferry, were first for specimens of *Todea superba* and *Tree Ferns*. For a single Palm Mr. Todd came first with a good plant of *Cocos Weddelliana*. *Lycopodiums* were well shown by Mr. G. Farquhar, gardener to A. Henderson, Esq., West Park, Dundee; Mr. J. Craigie, gardener to D. Robertson, Esq., Union Grove, Dundee; and Mr. Fairgrieve, Dunkeld. Some splendid *Cockscombs* from Mr. Mackie, Bridge of Earn, gained the first prize. When well grown few plants are more attractive.

Alpine plants in pots were shown in very fine condition. *Sedums*, *Sempervivums*, and *Saxifrages* were the chief objects

amongst them. For thirty varieties in pots not to exceed 6 inches in diameter, Mr. A. Paterson, Baxter Park, Dundee, was first; Mr. T. H. Milne second; and E. Moir, Esq., Newport, third. Mr. R. P. Brotherton, gardener to the Earl of Haddington, Tynningham, East Lothian, exhibited an excellent group, most of which were in full bloom. Orchids were very scarce. There was no competition in the nurserymen's class, and in the gardeners' there were only two threes staged; these came from Mr. Todd and Mr. Paterson, Bridge of Allan. *Fuchsias* were well shown in the amateur classes, the best coming from Mr. G. Cruicks and Mr. H. Hanton.

**CERTIFICATES.**—These were awarded to Messrs. Veitch & Sons for *Adiantum Luddemannianum*, *Anthurium cordifolium*, *Asplenium ferulaceum*, *Brahea filamentosa*, *Cattleya Manglesi*, *Croton MacArthurii*, *Cypripedium roseum pictum*, *C. selligerum hybrida*, *C. Euryandrum hybrida*, *Dracena speciosa*, *Davallia Youngii*, *Eularia japonica*, *Maranta Massangeana*, *Osmunda palustris*, *Phyllanthus roseum pictum*, and *Sarracenia Stevensii*. To Mr. B. S. Williams for *Alsophila plumosa*, *Anthurium ornatum*, *Anemia tessellata variegata*, *Alsophila Williamsii*, *Croton Queen Victoria*, *C. Williamsii*, *C. Henryii*, *Maranta Massangeana*, *Polystichum lepidocaulon*, *Kentia Mooreana*, *Platynerium Williamsii*, *Pandanus laciniatus*, and *Woodwardia radicans cristata*. To Mr. W. Bull for *Croton princeps*, *C. gloriosa*, *Curmeria Wallisii*, *Sadleria cyathoides*, and *Zamia princeps*. To W. Barron & Son for *Cupressus Lawsoniana pyramidalis alba spica*, *Retinospora tetragona aurea*, and *Cupressus Lawsoniana elegantissima*. Mr. Charles Turner, Royal Nurseries, Slough, was awarded certificates for the following new *Dahlias*:—Drake Lewis, Elsa, Christopher Ridley, and Oracle. Mr. A. Hunter, gardener to Lord Shand, New Hall, Edinburgh, had a certificate for *Tropæolum Hunterii*, which is a very dwarf-growing variety with a dark reddish bloom.

**CUT FLOWERS.**—The effect of these was somewhat lost, owing to their being arranged in various parts of the hall. *Gladioli*, although not very plentiful, were exceedingly good. In the nurserymen's class for twenty-four spikes Messrs. Robertson and Galloway, Glasgow, were first. Amongst the best in this stand were *Camille*, *Lamarck*, *Milton*, *La France*, *Ambrose Verschaffelt*, *Shakespeare*, *Primative*, *Captain Boyton*, *Ondine*, and *Argus*. Messrs. Kelway & Son were second, showing some fine spikes of *Duchess of Edinburgh*, *Mrs. Dombrian*, *Morina*, *Porcius*, *Earl of Dalhousie*, *Partheon*, and the *Rev. J. B. M. Camm*. Messrs. W. P. Laird & Sinclair, Dundee, were third. For twelve *Gladioli* in the gardeners' class Mr. Grey, gardener to W. Finnie, Esq., Newfield, Kilmarnock, was first; Mr. E. Campbell, Cone, Gourcock, second; and Mr. H. Crichton third.

All the prizes for *Dahlias* amongst nurserymen were divided between Messrs. John Stewart & Sons, Broughty Ferry, and W. P. Laird & Sinclair of Dundee. In the gardeners' class for twelve Mr. Neil Glass, gardener to J. C. Bolton, Esq., Carbrook, Stirling, was first with some extra fine blooms of *Chairman*, *James Service*, *Flora Wyatt*, *Henry Walton*, *Ovid*, *John Standish*, *Acme of Perfection*, *Miss Henshaw*, *Royal Queen*, *John Neville*, *James Cocker*, and *Vice President*. Mr. A. Duncan, Greenlaw, Paisley, was second, and Mr. McLennan third. *Hollyhocks* were neither superior nor plentiful. The best came from Mr. G. Dingwell, Ardock, Drac. *Roses* were very poor, and do not call for any special remark.

French and African *Marigolds* were exceedingly fine. For French varieties Mr. J. Galloway, Colinsburgh, Fife, was first, and Mr. M. Cuthbertson, gardener to J. Dobbie, Esq., Rothesay, was first in the other section. *Asters* were also well shown, as were also *Phloxes*, *Pentstemons*, and cut flowers of other herbaceous plants.

**DINNER-TABLE DECORATION, BOUQUETS, &c.**—There was a poor competition for the dinner-table decorations, only three appearing in this class. The first prize was awarded to Mr. James Whitton, foreman, Glamis Castle. This table, which was considerably in advance of the other two, had a centrepiece of flowers with a plant of *Dracena Draco* on each side, which were rather large or spreading for the width of the table; small flowers and dishes of *Pines*, *Grapes*, *Peaches*, &c., completed the arrangement. The winner of the second prize was Mr. Ross, St. Martin's Abbey, Perth; Mr. J. Young, Nethergate, Dundee, being third. This part of the Exhibition was largely patronised, and it is a pity there was not what might have been termed a really first-class arrangement amongst them.

We never saw more bouquets shown together in Scotland. With one or two exceptions every one of them was composed of as many flowers as might have made three bouquets of the same size. Mr. W. Bron was first for the table bouquet, and for three hand bouquets Mr. D. Middleton was first and Mr. G. MacIure, gardener to John Milne, Esq., Edinburgh, was second, and D. & W. Croll, Castle Street, Dundee, third. Mr. W. Milne, Woodhouse, Loughborough, Leicester, was first for the button-hole bouquets, and W. P. Laird & Sinclair second. We could not entirely comprehend what was aimed at in some of the floral devices, excepting one, which was a very good imitation of a revolving fire-squirter at an illumination. The miniature

flower gardens were mostly good in design, but much in want of something green to tone down the glare of colour. A very good window garden box was shown by Mr. Thomson, 10, High Street, Dundee.

**VEGETABLES.**—These made a very excellent display, indeed we have rarely seen a finer, and for quantity this department quite surpassed anything that has been seen this year. In many of the large baskets there would be two good barrowloads of vegetables, and although roughly put together the produce was mostly of a very superior kind. Mr. Low, gardener to J. Paton, Esq., Viewforth, Stirling, was first for the fifteen sorts; Mr. P. McArthur, Newport, second; and Mr. H. Morrison, third. Turnips, Carrots, Parsnips, Celery, Leeks, Onions, Beet, &c., were grand. Mr. Rust was first for two Cauliflowers; Mr. E. Campbell second; and Mr. D. Lamond third with a couple of Veitch's Autumn Giant, one of which was the finest head there. Peas were poor. Cabbages, Savoy, Early Greens and such like were first-rate, but Cucumbers were very small. The prizes offered by Mr. Munro for a brace of his Duke of Edinburgh were gained by Mr. H. Fowler; Mr. J. Methven, gardener to Col. Campbell, Blytheswood, Renfrew; and Mr. J. Brown, gardener to C. S. H. D. Moray, Esq., Grief, but none of their fruit as well as any of the others showed the true character of the Duke.

Potatoes were numerous and of fine quality. For twelve varieties Mr. T. H. Miln, Linlathen, came first with fine tubers of Royal Ashleaf Kidney, Robson's Challenge, Snowflake, Fenn's Early White Kidney, Fenn's Perfection Kidney, Breese's Peerless, White Don, Cheshire Chester, Gauldry's Early, and Smith's Early. Mr. Fairgrieve, Dunkeld, who was second, had some good tubers of Early Rose, Sutton's Floumball, Dalmahoy, Excelsior, Fortyfold, and Paterson's Victoria. Other prizetakers were Mr. Farquhar, Mr. Cowieson, Mr. P. Robertson, Mr. J. Thomson, Mr. P. Nicholl, and Mr. T. Aublett; the best tubers in their collections being Vermont Beauty, Early Vermont, Early Goodrich, Webb's Improved Kidney, Sutton's Hundred-fold Fluke, and American Rose.

**MISCELLANEOUS EXHIBITS.**—Messrs. James Veitch & Sons exhibited a large number of fine orchard-house trees in pots, each one bearing a splendid crop of fruit; the varieties being chiefly Salway, Magdala, and Sea Eagle Peaches; Byron, Pine Apple, and other Nectarines; different kinds of Pears, &c. These were quite a new feature at the Scotch shows, and they were greatly admired. The same firm sent some Vines in pots ready for fruiting of this year's growth, and their fine development was the subject of general remark. Messrs. Dickson & Co., Edinburgh, sent a stand of out Viola blooms, the best of which were The Tory, Pilrig Park, Peach Blossom, Alpha, Golden Bedder, Dickson's King, Modesty, Pallida, Climax, and Picturata. A good many articles in the way of rustic flower vases and such like ornaments were contributed by local firms, but these will be of little interest to our readers. No prizes were offered for pot Vines, but Mr. McDonald, Kinnettles, sent Black Hamburgs in fruit, which were awarded an extra prize.

The Judges were as follows:—*Fruit*, Mr. Thomson, Tweed Vineyard, Clovenfords; Mr. Fowler, Castle Kennedy; Mr. Dunn, Dalkeith Park; Mr. Webster, Gordon Castle; Mr. Cole, Feltham; Mr. Mathieson, Meikleour. *Plants*, Mr. Thomson, Drumlanrig; Dr. Moore, Glasnevin; Mr. B. S. Williams, London; Mr. J. MacNab, Royal Botanic Gardens, Edinburgh; Mr. Fraser, Canonmills; Mr. T. Baines, Southgate, London. *Cut Flowers*, Mr. Downie, Edinburgh; Mr. Wyness, Montrose; Mr. Paul, Paisley. *Vegetables*, Mr. Connacher, St. Fort; Mr. Mitchell, Panmure House; Mr. Laurie, Edzell; and Mr. Gow, Hallyburton.

### FEATHERED HELPS IN GARDENS.

"TYRONE INCUMBENT" says that he differs from me as regards bantams eating slugs, as he has tried his fowls with them over and over again, and found them an object of dislike. I think his experience and mine may be easily squared though seeming so different. Fowls are grain-eating birds; they, however, take animal food in different forms as relishes, not as their staple food. When in a garden they delight to pick up small insects, worms, slugs, &c., and if they are at liberty the whole or part of the day, they, eating the small things, cause in time a garden to be marvellously clear of these pests. But collect a whole mass of slugs, most probably the largest, and give them as food, the birds are then disgusted with them.

This is not peculiar to birds. Here is my fox terrier: if I throw him a large hunch of bread he will not eat it, but if I break it into dainty morsels he catches each in his mouth and eats it, adding a grateful wag of his tail. There are my pigeons: if I give them a huge Lettuce they don't touch it, but they delight to pluck in the garden at the growing plants. There is in the case of the bantams the search, the scratch, the find, "the sport," so to speak, and the run of the hens after a dainty morsel. Bantam chicks will clear a bed of Mignonette of

caterpillars, delighting in the work, but I daresay would not eat them if shut up. They will pluck clean of aphides a Rose branch. All this I can testify from observation. But a loathsome mass of huge slugs cast in a heap before bantams would be left by them.

Sparrows, too, cleanse Cabbage plants, delighting to hunt for the caterpillars. Ducks are, of course, insectivorous naturally, and will demolish slugs, snails, &c. I have been told that the Emerald Isle, green from its humidity, abounds much more than our drier and browner England in slugs, snails, &c. Given a small garden, and a few black bantams—they are not inclined to straying so far as some others—and that garden will in time become singularly free from insect pests.—WILTSHIRE RECTOR.

### NOTES AND GLEANINGS.

**ARCHER'S COURT**, noticed in our last, is a manor in the parish of River held in the reign of Edward I. of the king *in capite* "by the sergeantry and service of holding the king's head between Dover and Whitsond as often as it should happen for him to pass the sea between those ports, and there should be occasion for it."—(*Rob. Esch. N. 34*.) It was then held by Solomon de Champs, from whom it descended to a family named Archer or L'Archer, from whom it derived its name.

The useful discussion meetings of the WIMBLEDON GARDENERS' SOCIETY began on the 8th inst. in the lecture hall of the village library, when Mr. Ollerhead commenced the reading of a comprehensive essay on winter-flowering plants. The chair was occupied by Mr. Lyon, gardener to A. Schlusser, Esq. The evenings are as yet too short, necessitating a late hour for the commencement of business, to ensure a large attendance, yet about twenty gardeners attended, several of whom took part in the discussion and supplemented the reading of the paper by the expression of useful hints. The plants noticed were the Poinsettia, Euphorbia jacquiniiflora, Eucharis amazonica, Centropogon, and Scutellaria. The reading of the essay will be resumed at the next meeting, and in due time will be placed at our disposal according to an intimation obligingly furnished by Mr. Ollerhead. Votes of thanks to the Chairman and to the author of the essay brought the proceedings to a close.

SALT brine impregnated with the blood, &c., of herrings or other fish is a good manure. Mixed with five times its measure of water it may be applied between the rows of any of the Cabbage tribe, and to Rhubarb, Beetroot, and Artichokes, says one who has tried it.

AN INTERNATIONAL EXHIBITION will be held in CAPE TOWN in 1877 in a building to be erected for the purpose by consent of the Colonial Government. It will include manufactures of all kinds. The date fixed for the opening is February 15th, and everything intended for the Exhibition must be shipped from London not later than during the first week in December, 1876. Intending exhibitors should communicate immediately with Mr. Edmund Johnson, Commissaire Délégué, at the European Central Offices of the Exhibition, 3, Castle Street, Holborn, London.

MR. J. GADD writes, "I have found the CUCKOO most helpful in ridding large plantations of Gooseberry trees from caterpillars, and by leaving the birds unmolested they have become comparatively tame, not caring to fly away at the approach of anyone."

"I have grown CANADIAN WONDER BEAN for four years and have proved it an enormous cropper, but it requires planting a good distance apart so that each plant may develop itself."

"Of the NEW PEAS DR. MACLEAN is one of the best, coming in as a second early, a good cropper, with large pods well filled, and good in quality, and being dwarf a most useful Pea for small gardens. Of the tall Peas none have stood out the dry weather like Williams's Emperor of the Marrows, and for quality nothing surpasses it."

MARÉCHAL NIEL ROSE, writes one of its very successful growers, never produces its blooms so freely as from shoots which are made in September. Shoots which are now being made should therefore be preserved, cutting away any weak, scrubby, spur-like parts of the bush in order that the free-growing shoots can have light and air to mature them. Very luxuriant shoots which occasionally appear, and which appropriate too much the sap of the bush, should be stopped, and the growth will consequently be equalised. Free-growing, moderately strong growths should be encouraged, and these if not

shortened, or shortened but very slightly, will be covered next summer with "golden flowers," such as no other Rose nor other plant can produce. A little assistance in the way of pruning given to Maréchal Niel now will be more effectual than will any amount of cutting performed in the winter.

— We have received from the Rev. H. H. Dombraïn a remarkable example of FASCINATION OF GROWTH IN THE CUCUMBER. On the portion of Vines sent to us there were twelve fruits showing in a length of stem of 3 inches, six of the fruits being from 6 to 9 inches in length, the others smaller. The stem was quite flat and  $1\frac{1}{2}$  inch in diameter. The cluster presented a very singular appearance.

— EUPHORBIA JACQUINÆFLORA is well known as one of the most brilliant and effective of winter-flowering plants. Especially as affording elegant sprays for cutting for room-decoration is this plant valuable. In order to produce these sprays in the greatest abundance and in the finest condition the plants should be planted out. The best place for planting them and the mode of growing and training them is that which has been this year adopted by Mr. Ollerhead at Wimbledon House. At the back of the Pine pits about a foot of the plunging material was removed and replaced with soil. In this a row of Euphorbias was planted close to the back wall of the pit, and three rows of wires were stretched, supported by sticks, to train the plants to. These plants now form a hedge about 4 feet high, and in due time will produce thousands of brilliant sprays which cannot fail to be of great value. The heat of the Pine stove and full exposure to light have been exactly suitable for the robust growth of the Euphorbias, and they do not in the slightest degree interfere with the Pines. The Euphorbias in fact form an agreeable hedge, and occupy space which is invariably unoccupied. We have never seen this plant so perfectly "at home" as in the place and by the mode of culture now referred to, and we have seldom seen any practice more worthy of note and imitation.

— Amongst the numerous decorative plants employed in the ornamentation of BATTERSEA PARK may be seen plunged in the grass standard plants or miniature trees of the POMEGRANATE—*Punica granatum*. These arrest the notice of visitors by their bright scarlet blossoms, which are freely produced. The stems of these plants are about 2 feet in height, and their heads are 2 feet in diameter; the foliage is healthy. These specimens are thoroughly distinct in character from the surrounding subjects, and are both novel and effective.

— The splendid dish of CRAWFORD'S EARLY PEACHES recently exhibited before the Fruit Committee of the Royal Horticultural Society denote that this fine American Peach is worthy the attention of those proposing to add to their collections. The fruits were exceedingly large, nearly round, and of an orange colour mottled with red. This is a most distinct and imposing variety, and is found by Mr. Miles to be of excellent quality, and the tree is hardy and a free bearer. Dr. Hogg, in the "Fruit Manual," describes this as a "very large and most delicious Peach, with a yellow flesh like an Apricot, and is deserving of very extensive cultivation." At the fine exhibition of Peaches at the Alexandra Palace last year Mr. Coleman easily secured the first prize with Crawford's Early, and we are informed by others who have grown it that it is a variety of the first order of merit.

— M. NADAULT DE BUFFON, a French *savant*, has sent to the Society of Acclimatisation, through M. Dronyn de Lhuys, the HERBARIUM collected by Daubenton, the great friend of his illustrious ancestor. The herbarium was collected at Montbard when Daubenton was busy in the erection of a sheep-house, which led to the introduction into France of the first merinos.—(Nature.)

— At the usual monthly meeting of the HORTICULTURAL CLUB held at the Club House, 3, Adelphi Terrace, on Wednesday last, the following gentlemen were admitted members:—John C. Quennell, M.D., Brentwood, Essex; A. B. Cater, Bath; and Joseph F. Mestin, 20, Spring Gardens, S.W., and Haverstock Hill.

— PROPAGATING XANTHOCERAS SORBIFOLIA. — M. Rivière states that this beautiful new shrub is rather difficult to raise from cuttings in the ordinary way, but that it may be propagated with the greatest freedom by means of root-cuttings formed from small portions of the root.

— We omitted to note that Mr. George of Putney Heath exhibited blooms of his new seedling LIX-LEAVED GERANIUMS at South Kensington last week. The new varieties, both in

colour and the form of their flowers, far surpass the older sorts. The flowers exhibited were of a rosy salmon colour, and of a shape resembling the zonals. The new seedlings are also very compact in habit and floriferous.

— THE Journal of the Society of Arts states that chief among the timber trees of New Zealand is the KAURI PINE. These trees in some instances have been found 15 feet in diameter and 150 feet in height. On an average they may be estimated as yielding, when sawn into conveniently-sized boards, between 6000 and 7000 feet of timber, the market price of which at the mills is from 9s. 6d. to 11s. 6d. per 100 feet. The wood is in great demand for cabinet-making, which gives it a special value. An illustration of this occurred some time ago, when a tree was cut by a settler residing about eighteen miles north of Auckland. The trunk of this tree was 40 feet high and 37 feet in circumference, and it yielded when sawn 22,000 feet of rich mottled Kauri, which was sold for £500, leaving, after deducting £200 for expenses connected with the cutting of the tree and getting it to market, a clear profit of £300. The gum which exudes from the tree is especially an Auckland product, being found in no other part of the world. Over a large area of land which has been exhausted by Kauri forest in past ages, and is now barren and almost unfit for cultivation, the gum that has exuded from the dead trees is found at a depth of 2 to 3 feet. This gum is an important article of commerce, being found valuable for the manufacture of varnish; and its importance may be estimated from the fact that in the last three years for which the statistics are complete—namely, 1870, 1871, and 1872—no less than 14,276 tons of the gum were exported, the value of which amounted to £497,179. The production of this article is entirely due to the aboriginal natives, and to this they are stimulated by the presence of European purchasers. The buying price of first-class Kauri gum at Auckland in March, 1874, was £30 to £33 per ton. At that price the gum-diggers would earn from 30s. to £4 a-week, according to the nature of the field they were working on. The average earnings would, however, be about £2 a-week.

— PRESERVING THE COLOUR OF DRIED FLOWERS.—M. Boulade recommends the following plan for preserving the colours of flowers of the herbarium:—Lay out the flowers between several sheets of unsized paper—filtering paper; place these sheets between two fire-bricks, and put the whole in a stove or oven heated to 60° to 70° Cent. Change the papers after an hour. After two or three hours the flowers will be sufficiently dried, and their colours preserved.

— LYCOPERSICUM CERASIFORME.—A friend writing from Leyden last week, after alluding to some of the more interesting objects with which he was impressed on visiting the Botanic Gardens, specially alludes to this plant, and he seems to have been greatly impressed with its beauty. He says, "There is now a little plant, *Lycopersicum cerasiforme*, in the open border, which is indeed very beautiful. It is literally covered with a profusion of large scarlet flowers, the effect of which is splendid."—(Irish Farmers' Gazette.)

## NEW EDITION.

*Choice Stove and Greenhouse Ornamental-leaved Plants.* By BENJAMIN S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London.

FROM the great success of the author as a cultivator of plants his works have met with a large share of acceptance by horticultural readers. A second edition of the work relating to ornamental-foliaged plants having been called for, an excellent volume is produced containing notices of plants which have been introduced since the issue of the first edition, and much fresh practical matter is also incorporated. The work contains reliable information on all matters relating to the cultivation of plants. It is full, yet concise; is intelligibly written, and is worthy of a place in every gardener's library. As better showing the nature of the work we extract from the preface:—

"The cultivation of ornamental-leaved plants is much easier than that of plants grown entirely for the beauty of their flowers. This will be readily understood on a moment's reflection. To produce plants profusely adorned with flowers close attention is required in resting, in shifting, and starting into growth at the proper season, and other matters of importance, all which is fully explained in the volume devoted entirely to the ornamental-flowering plants; but the plants now under consideration have to be treated upon quite a different principle, for as their beauty is to be sought in their foliage, the object should be to make

them grow as vigorous as possible from the earliest stages, so that their characters may be seen at an early period of their existence, and those kinds which are not deciduous require to be kept in a growing state nearly the whole year, which differs materially from the treatment necessary for most plants required to produce a large crop of flowers. The deciduous or annual-leaved kinds, such as *Caladiums*, give very little trouble, but yield an abundance of their charming leaves provided an ample supply of water and moderate heat be maintained. The details of cultivation will, however, follow in its proper sequence, and therefore need not be further referred to here. Let us rather address ourselves to dispel the too prevalent idea that the class of plants to which these pages are devoted require a great amount of heat. This may indeed be true in regard to most of the plants from the low grounds of the islands in the Indian Archipelago, and also from most other low countries within the tropics, and that a great many plants of this class require ordinary stove heat we do not attempt to deny, but rather add they will not exist without it; but between these is an immense quantity of grand 'foliated' plants which have for a number of years been looked upon as purely stove plants, but which we now find not only thrive well in the greenhouse and conservatory, but actually grow in the open air during the summer months. Nor is this any matter for astonishment when we reflect that even Palms, which we usually associate in our minds with great heat, are said to exist in abundance in the forest-clad slopes of the Andes at some 7000 and 8000 feet altitude, and the same may be said of many species from the Himalayas. With these are found many plants which would be beautiful ornaments to our cool houses if their natural positions were only more often borne in mind by the cultivator. It cannot be too strongly impressed upon the attention of collectors that an account of the position, the altitude, and natural surroundings of every plant they gather is of the greatest assistance to the practical man at home, and that through want of such knowledge many valuable and beautiful plants have been lost to cultivation after having been introduced in a living state to this country.

"Besides the Indian and tropical American plants we have moreover those of Australia, New Zealand, and the Cape of Good Hope, all of which countries supply us with an immense quantity of ornamental-leaved plants, and every year only reveals to us the fact that richer treasures are yet in store for whoever searches for them."

As evidence that the volume is not exclusively devoted to aristocratic plants we quote a useful chapter on WINDOW PLANTS AND PLANTS SUITABLE FOR INDOOR DECORATION:—

"A few years ago what little window gardening or room decoration was carried on was done by the aid of flowers only. Such as *Geraniums*, *Fuchsias*, *Heliotropes*, and a few other summer-blooming plants formed the chief supply, which was varied in winter by the addition of the Chinese *Primula* and the *Cineraria*, thus leaving the apartments empty and dreary just at the time when plants would have been most appreciated. To supply this want Ferns were first taken into favour, and most elegant decorative agents they are, but unfortunately the greater portion of them are too delicate in texture to withstand the dry atmosphere which is necessarily maintained in a dwelling-house. To obviate this miniature greenhouses were invented by Mr. N. B. Ward, an enthusiastic lover of this race of plants, and these have ever since been called 'Ward's Cases' or 'Wardian Cases,' and are most extensively used. Indeed, many large and interesting collections of Ferns are cultivated by amateurs who have no other accommodation but such as these cases afford, and to whom they thus become a never-ending source of enjoyment. In addition to their adaptability for the cultivation of Ferns, they are eminently suited also for the growth of many of the smaller-growing plants remarkable for the beauty of their leaves, and which, although too fragile to stand in a room unprotected, yet become objects of great interest when grown in cases. There are several kinds of Orchids which succeed admirably in these structures, and afford much additional interest; we allude to the various species of *Sophranites*, which are adapted for small blocks to be suspended from the roof; to several species of *Lycaste* and *Odontoglossum*; to the most showy kinds of *Stellis* and *Pleurothallis*, as well as some of the *Maxillarias* and *Cypripediums*.

"The groundwork of these cases should be composed of ornamental-foliated plants—plants with a robust constitution and somewhat stout or coriaceous leaves, examples of which may be found amongst Palms and the different species of *Draena*, *Croton*, *Agave*, *Yucca*, *Ficus*, and many other genera. Amongst these the plants in flower should be arranged with a view to give life to the picture. These latter must, however, be renewed as soon as the blooms are past. *Jardinettes* and vases for dinner-table decoration should be filled alternately with leafage and flowering plants to prevent sameness of appearance.

"It has occurred to us that many would be glad of a little timely advice as to the management of their open-air window plants and window boxes, and although these do not come exactly within the meaning of the heading of this chapter, we

shall be excused for devoting a little space to this object. Plants grown in pots and in boxes outside windows are in many instances miserable objects; on the other hand, many persons succeed in maintaining a gay and varied display in them nearly all the year round, which is ample proof that it is possible to do so if proper selections are made and sufficient care and attention are bestowed. Ivies of various kinds have a beautiful appearance when trained neatly round the window, and form an elegant framework for the plants, besides having a cheerful aspect during the dull winter months. During summer they may be removed if desirable, and such plants as *Pilegyne suavis* (German Ivy), *Cobaea scandens variegata*, *Hardenbergia monophylla*, and various other plants used in their place. One of the most beautiful window arrangements we ever saw was a framework of Ivy upon which was trained *Clematis Jackmanni*; another consisted of *Clematis lanuginosa candida* upon the same background. These and many other varieties of this genus cannot be surpassed for this purpose; we must, however, in passing remind our readers that they will require occasional applications of weak artificial manure to prevent them becoming exhausted—an occurrence which would only lead to disappointment and loss of time.

"In the summer season window boxes should never be without a few plants of *Mignonette*, as its delicate fragrance is not surpassed by that of any other flower. This can be easily accomplished by dropping a few seeds upon the soil every three or four weeks, so that young plants may take the place of older ones which may be robbing the other occupants of their space. One or two plants with ornamental leaves should be placed in each box, and the remaining space should be filled up with flowering plants according to the available supply. As the plants become shabby they should be removed to the store ground and their places be filled up by others. We may add that if the growth of spring bulbs is attempted a double set of boxes will be needed, so that the bulbs may be planted in autumn, covered with ashes or other protecting material, and not brought into position until tolerably advanced. This arrangement will allow the windows to be decorated with a few flowers and ornamental plants during even the depth of winter."

After making these copious extracts it is not necessary to add more than that the work is attractive, instructive, and entertaining throughout.

## WORSLEY HALL,

### THE FLOWER GARDEN AND PLEASURE GROUNDS.

THE pleasure grounds are quite sixty acres in extent, and are parted from the kitchen gardens by a belt of forest trees and an undergrowth of *Rhododendrons*, through which we pass by a shady walk. How often do we see plantations not far from princely mansions with an undergrowth of brambles, scrubby trees, and weeds; whereas by a very little attention and not much expense Laurels or *Rhododendrons* might be planted, which form a good cover for game and add greatly to the beauty and value of an estate. Skirting the pleasure grounds are noble bushes of *Rhododendrons* and Portugal Laurels, which form in certain positions sheltered nooks. On the closely shaven lawn are a few raised beds planted with succulents. One was very effective, and had for a centre *Sempervivum tabuleforme* and *S. californicum*, with an edging of *Mesembryanthemum cordifolium variegatum* planted at intervals with a large-foliated *Sempervivum*. In this portion of the grounds are some noble specimens of *Araucaria imbricata*. Here, too, did Her Majesty the Queen plant a *Wellingtonia gigantea*, and her eldest daughter, now Princess Frederick William of Prussia, an Oak; and right well has it taken to the soil, while the Californian monarch looks wretchedly out of place and in a dying condition, the same as it is to be found everywhere in the neighbourhood of large and smoky towns. Here also we find the rosery, and it is certainly placed in a position where Roses might be enjoyed, but it is not such as would be chosen by a rosarian who wished to grow fine flowers. It is quite surrounded by a tall hedge and overshadowed with lofty trees, which are near enough to send their fibrous roots into the Rose beds. The Rose bushes looked as well as could be expected under the circumstances.

From this point we very soon reach the terrace garden in front of the Hall, where the full extent of the grounds is taken in at one view. This portion is divided from the large geometrical garden by a substantial balustraded wall. A beautiful lake four or five acres in extent terminates the dressed ground. At the south-east side of the grounds, bounded by the aforesaid *Rhododendrons* and Laurels, we notice on the banks of the Duke's Canal the Queen's landing stage; beyond that the famous foundry of Nasmyth, where the steam hammer was first used. Further still in the distance is that characteristic



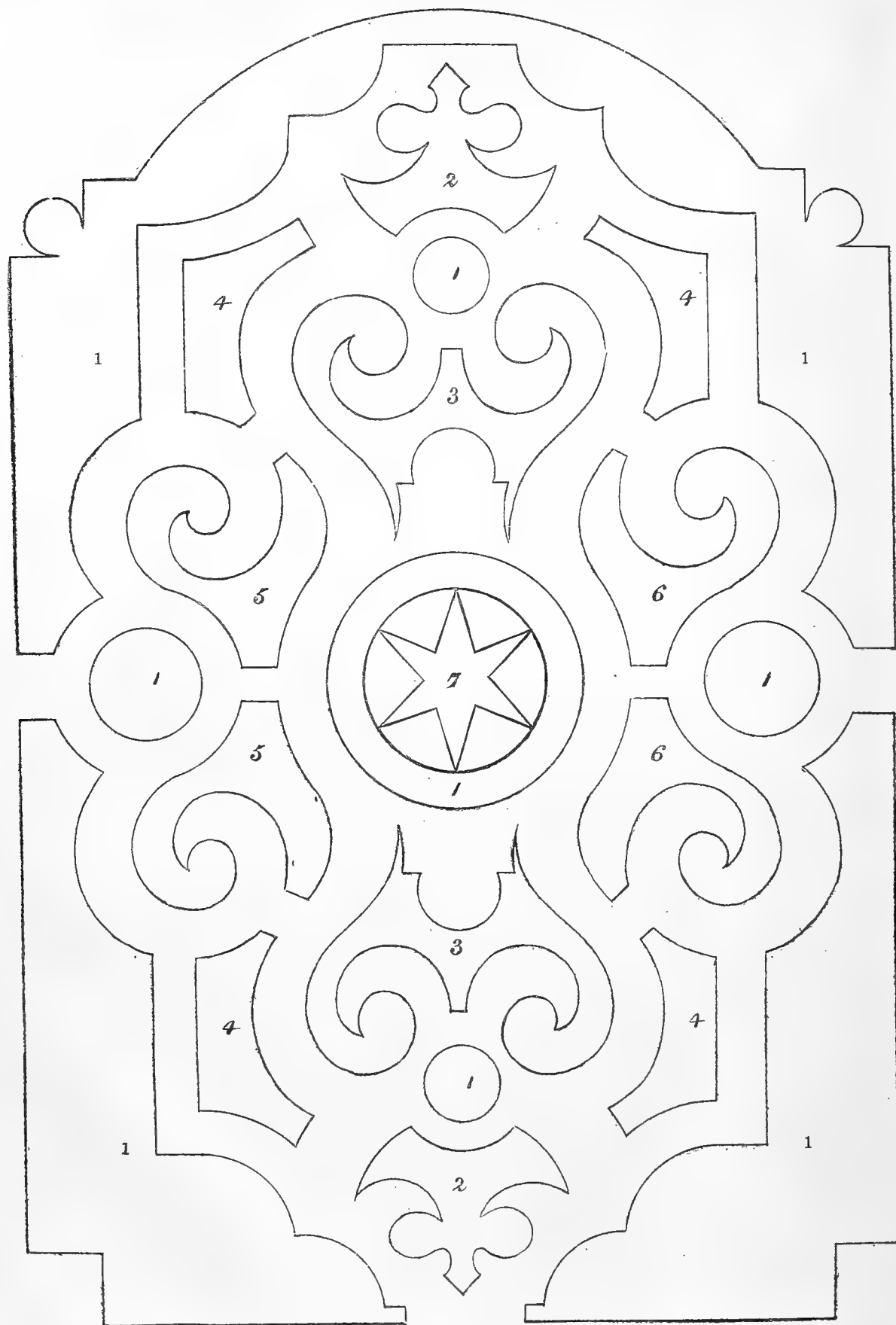


Fig. 80.—FLOWER GARDEN AT WORSLEY HALL.

feature in English landscape the tall square church tower—in this instance of Eccles church. More to the south and looking over the lake in the extreme distance are the Derbyshire hills, and between our present position and the hills a railway train is speeding to its destination, and we are told that it is now in the middle of the Chat Moss. More church spires and taller chimneys vomiting sulphurous smoke, which accounts for the stunted growth of many species of Conifers, are seen; and in the far distance, and when the sky is clear, are to be seen the hills of Wales and Shropshire.

Returning to the garden, which is best described as a series of terraces sloping from the Hall to the lake, and even beyond the Hall, as there are two terraces rising on the north side, which partly serve as a shelter from the wintry blast; five terraces more constitute that portion of the ground between us and the lake. This is a noble sheet of water with a pretty little island, which it is intended to connect with the mainland by an ornamental bridge.

The geometrical garden was laid out by Mr. Markham Nesfield, but the present plan is a modification of his. Portions of the attenuated scrollwork in imitation of Brussels carpets, which he was so fond of introducing into his designs, have been turfed over, and a much more simple and appropriate plan has been the result. Small beds and elaborate scrollwork designs are not in keeping with the surroundings at Worsley Hall. On this terrace there is also a very elegant fountain designed in bronze by Valdousé. It was exhibited and much admired in the first Great Exhibition of 1851. The central group is formed of storks, kingfishers, and Water Lilies. On the lowest terrace there are also flower-garden designs, with fountains in the centre and beds of the finer Rhododendrons and other shrubs. On the west side of the Hall is the croquet ground, which is surrounded on one side with beds of scrollwork in Box and spar, and on the other with a series of circular beds.

The carriage drive from the Hall to the lodge is through an avenue of Lime trees, which had been planted too close to the side; and although they are of considerable size Mr. Upjohn has successfully transplanted a number of them, removing them further from the verge. The whole of the pleasure grounds as well as the kitchen gardens are in excellent order, and reflect very great credit upon Mr. Upjohn and his staff of workmen.

A plan of one of the flower-garden designs is appended: it is laid down on gravel, the beds being surrounded by Box edging and relieved by grass. Both in design and planting it is very effective.—J. DOUGLAS.

#### REFERENCES TO THE DESIGN.

- |  |   |
|--|---|
| 1, Grass.  | 5, Geranium Madame Vaucher and blue Pansy mixed.                        |
| 2, Geranium Mrs. Pollock, edged with <i>Lobelia pumila grandiflora</i> . | 6, Geranium Madame Rudersdorff and blue Pansy mixed.                    |
| 3, Geranium Glorious.  | 7, Star, Crystal Palace Gem Geranium; angles, <i>Lobelia speciosa</i> . |
| 4, Geranium Christine, edged with Geranium Bijou.                        |   |

## EARLY WRITERS ON ENGLISH GARDENING.

No. 18.

### WILLIAM CURTIS.

MR. CURTIS was the eldest son of Mr. John Curtis of Alton in Hampshire, a tanner. He was born in the year 1746. When about eight years of age he was placed under the care of Mr. Vindin, who at that time kept a very respectable school about a mile from that town. Mr. Curtis remained at this seminary under Mr. Vindin and his successor Mr. Ducker till about the age of fourteen, when, to his great regret (for he had now begun to relish and to know the value of classical acquisitions), he was taken away and bound apprentice to his grandfather, an apothecary at Alton.

It was during this period that Mr. Curtis was led to his first studies in botany. The house contiguous to that in which Mr. Curtis lived was the "Crown Inn." The ostler, Mr. John Lagg, a sober steady man, was a person of uncommonly strong sense, and, though an unlettered man, with the assistance of Gerard's and Parkinson's unwieldy volumes, had gained so complete a knowledge of plants that not one could be brought to him which he could not name without hesitation. This struck Mr. Curtis's young mind most forcibly, and brought into action those powers which have made him so famous. In a very short time his indefatigable zeal had made him practically acquainted with most of the wild plants of his neighbourhood, especially those which related to medicine.

But this first practical acquaintance with plants had been

gained under the direction of the laborious and obscure system of the old school. The Linnæan system began now to be much talked of. Mr. Curtis happened to meet with Berkenhout's botanical lexicon; and this was almost the only book on the theory of botany which he had been able to procure during his residence at Alton. His apprenticeship there now drawing to a conclusion, his friends thought it necessary that he should be settled in London.

He first lived with Mr. George Vaux, surgeon, in Pudding Lane, and afterwards with Mr. Thomas Talwin, apothecary of Gracechurch Street, to whose business he succeeded. During the period of his residing with these gentlemen Mr. Curtis attended St. Thomas's Hospital and the anatomical lectures there given by Mr. Elise, as well as the lectures of Dr. George Fordyce, senior physician to that hospital. Dr. Fordyce, convinced of the necessity of botanical knowledge to medical students, was in the practice of accompanying his pupils into the fields and meadows near town, chiefly for the purpose of instructing them in the principles of the science of botany. On these occasions Mr. Curtis frequently had the honour of assisting the doctor in demonstrating the plants which occurred;



Fig. 91.—Mr. William Curtis.

frequently the talk of demonstration was confided wholly to Mr. Curtis. These instructions were gratuitous, and, no doubt, gave him that confidence of superiority which justly led him to the idea of imparting knowledge by the various modes of lecture and publication, which he afterwards so successfully pursued.

Mr. Curtis for some time gave public lectures in botany, taking his pupils with him into the fields and woods in the neighbourhood of London. Nothing could be more pleasant than these excursions. At dinner-time the plants collected in the walk were produced and demonstrated; but the demonstration was enlivened with all that fund of natural humour which was always uppermost in Mr. Curtis's disposition.

Mr. Curtis with great judgment had connected the study of entomology with that of botany, and accordingly about the year 1771 published his instructions for collecting and preserving insects; and in the year 1772 a translation of the "Fundamenta Entomologiæ" of Linnæus. He was now known to many gentlemen of the first abilities in the knowledge of natural history; among the rest to Mr. Alchorne of the Mint. This gentleman had officiated, *pro tempore*, as demonstrator of botany to the Society of Apothecaries on the resignation of Mr. Hudson, and conceiving that it would be both honourable and advantageous to Mr. Curtis to be placed in that situation, he recommended him in the handsomest

terms to the Society, and he was accordingly chosen to that office. He continued in this situation several years, but at length finding it interfered too much with his professional duties resigned it.

Before this resignation took place Mr. Curtis had become intimately acquainted with Thomas White, Esq., brother of the Rev. Gilbert White of Selborne, Hants. Mr. White was a gentleman of learning, extensive reading, and much science. In conjunction with him Mr. Curtis occupied a very small garden for the culture of British plants near the Grange Road, at the bottom of Bermondsey Street. It was here that Mr. Curtis first conceived the design of publishing his great work, the "Flora Londinensis," having the good fortune to meet with an artist of uncommon talent in Mr. Kilburn, and receiving from Mr. White, especially in his three first Fasciculi, much and most valuable assistance.

The Grange Road garden was soon found too small for Mr. Curtis's extensive ideas. He therefore took a larger piece of ground in Lambeth Marsh, where he soon collected the largest collection of British plants ever brought together into one place. But there was something ungenial in the air of this place, which made it extremely difficult to preserve sea plants and many of the rare annuals which are adapted to an elevated situation; an evil rendered worse every year by the increased number of buildings around. This led his active mind, ever anxious for improvement, to inquire for a more favourable soil and purer air. This at length he found at Brompton. Here he procured a spacious territory, in which he had the pleasure of seeing his wishes gratified to the utmost extent of reasonable expectation. Here he continued to his death.

Several years previous to this, Mr. Curtis finding it incompatible with the duties of his profession as an apothecary to give up so much of his time as he wished to his favourite pursuits, first took in a partner, and soon after declined the practice of physic altogether, devoting himself to the study of natural history. He had now nothing to depend upon for a livelihood but the precarious profits of his botanic garden and his publications. The "Flora Londinensis" was an object of universal admiration, and on this he bestowed unwearied care. But the sale of the work never equalled its unrivalled merit, the number of copies sold scarcely ever exceeded three hundred. This was owing partly to the work coming out (a great advantage to it in point of accuracy), so slowly; partly to its being but little known abroad in consequence of this slowness, and at length to the horrid revolution of France.

Mr. Curtis disdained to have the usual recourse to artifice and increased price to enable him to carry on the sale. But by a happy judgment, about the year 1787, he projected the plan of his "Botanical Magazine." What the sterling merit of his "Flora" could not accomplish, this comparatively speaking inferior performance procured him most readily. The nature of this publication had in it such a captivating appearance, was so easily purchaseable, and was executed with so much taste and accuracy, that it at once became popular; and from its unvaried continuance in excellence and popularity continued to be a mine of wealth to him to the very day of his death, contributing at the same time not a little to the increase of his botanical fame, from the number of original and excellent observations interspersed through the work.

The mode of publication adopted in the "Botanical Magazine" held out a tempting lure to similar productions. Hence, among others, the "English Botany" of Dr. Smith and Mr. Sowerby took its origin. Unfortunately Mr. Curtis considered the publication of this work as an act of hostility against himself, neither would he allow himself to be persuaded to the contrary. It was an unfortunate circumstance, and prevented him from communicating with Dr. Smith, a real friend to him, and even with the Linnean Society, of which he was one of the oldest members, and in which he had a very large number of his personal friends. No mischief arose from this untoward misconception, the interposition of friends at length softening, if not entirely healing, the rankling wound.

There was not a naturalist of any eminence who did not court his acquaintance. There never was a pleasanter companion than Mr. Curtis: he abounded in innocent mirth, and good humour ever floating uppermost gave a pleasant cast to everything he said or did. Few people have been known to form so correct an opinion of themselves as he. "I have no pretensions," said he, in the memoirs which he left with Dr. Sims, "to be considered as a man of letters or of great mental powers. I know myself and my imperfections. A consciousness of my inabilities makes me diffident, and produces in

me a shyness which some have been ready to construe into pride." He was sensible that his excellence consisted in his superior discernment when applied to objects of natural history: in that respect he had few equals. The following circumstance bears witness to the truth of this remark:—Mr. Curtis first discovered the membranous calyptra in Mosses, overlooked by Dillenius. To him we owe the discovery that the *Violas* and *Oxalises* produce seeds all the year through, though the latter produce no petals except in the spring, the former only sparingly in the autumn. The distinction between *Poa pratensis* and *trivialis* by the intrafoliaceous membrane is the result of Mr. Curtis's accurate discernment. Many others might be mentioned. From this mode of viewing objects other writers took the hint; and, undoubtedly, the science of botany was much improved by these and such like attentions.

In ornithology Mr. Curtis was no mean adept. Although his musical powers were by no means at all beyond the common level, yet in one respect he showed a most exact ear. No bird could utter a note, whether its usual one, or that of love, or that of fear and surprise, but he could from the sound determine from what species it proceeded.

Entomology was always a favourite study with him. Few men have observed more: it is only to be regretted that he committed so little to paper. He was so familiar with the motions of insects that he could almost always declare what was the intent of those busy and playful (as it should seem to ignorant observers), actions, in which they were so perpetually employed. He made a most notable discovery of the cause of what is called the honeydew on plants. From repeated observations he determined it to be no other than the excrement of aphides.

All Mr. Curtis's ideas were turned to the benefit of mankind. He was the first botanist of note in this country who applied botany to the purposes of agriculture. By perpetually cultivating plants he possessed advantages superior to any that had preceded him, and was thereby enabled to point out to the agriculturist the noxious as well as the useful qualities of plants, a branch of agriculture rarely attended to.

Although, as has been before stated, Mr. Curtis's education was very confined, he had acquired some taste for classic literature both ancient and modern, and somewhat of elegance and neatness pervaded whatever he took in hand. The form of his mind was portrayed in his garden, his library, his aviary, and even a dry catalogue of plants became from his pen an amusing and instructive little volume. His delicacy never forsook him, nor would he willingly adopt the coarse vulgar names of some of the elder botanists, though sanctioned by the authority of Linnaeus himself. In short, Mr. Curtis was an honest, laborious, worthy man, gentle, humane, kind to everybody, a pleasant companion, a good master, and a steady friend. His "Flora Londinensis" will be a *monumentum ære perennius*.

He departed this life, July 7th, 1799. The following is inscribed on his tomb:—

"While living herbs shall spring profusely wild,  
Or gardens cherish all that's blythe and gay,  
So long thy works shall please, dear Nature's child,  
So long thy mem'ry suffer no decay."

The remains of Mr. Curtis were deposited, at his own request, in Battersea churchyard, opposite the west entrance of the church; a place selected by him, probably from its being a pleasant place, adjoining the Thames, and the neighbourhood of frequent scenes of enjoyment in herborising excursions with his pupils, for which the weedy fields of Battersea were a peculiarly desirable spot.—(*Gentleman's Magazine*, &c.)

## PROFITABLE TIMBER TREES.

A CORRESPONDENT proposes to plant about ten acres of land on a hillside, the soil being clay on chalk. He wishes to plant this with trees, which must be cleared off in from twenty to thirty years, and asks which will in that time give him the greatest return by the sale of timber? "His proposition is to plant Larch 3 feet apart each way, and some quick-growing and more valuable timber at about 12 feet apart, such as Ash, Beech, Acacia, Chestnut, Lime, and Sycamore," which he assumes will become of more value in the time named than the Larch of the same age. He further propounds the following series of questions—"1, Are the trees mentioned such as you would recommend for a quick growth and value as timber, and would Black Poplar do with Larch or overgrow it? 2, Would 3 feet apart be too close, and do you consider it a suitable distance?

3, What preparation should the land have? I could not afford to trench it. 4, Is October and November a better time to plant than February or March? 5, Would the land pay for manuring before the planting is done? It has grown a crop of Barley and Potatoes this summer. 6, What would be the probable value of the timber per acre at the end of twenty-five years, including the thinnings previous to that time?" The matter of tree-planting is one of general importance, and the above questions in reference thereto are very pertinent; we therefore publish them with the following commentary from one who has had experience in tree-planting and the management of plantations.

I will consider the above questions seriatim, and first say that I do not agree with the proposition of planting such trees as Ash, Beech, Acacia, Chestnut, Limes, and Sycamore 12 feet apart, with Larches between them as nurses. I observe that your querist does not include Oak, he probably having in mind the adage that "Larch will buy a horse before Oak will buy a saddle." That I believe to be true, and not only so, but I am firm in the opinion that Larch where it grows well will buy a horse sooner than will any other timber tree. It may, however, not be unprofitable to notice briefly the characteristics of the trees mentioned by way of determining their adaptability or otherwise for the purpose named—i.e., of affording the greatest profit in, say, thirty years.

**ASH.**—A hardy tree of rapid growth in good and especially moist soils. The growth in a young state is useful for crates, hoops, hop poles, and fences, and when matured is in great request by wheelwrights for various purposes. On a chalk subsoil the young growth would probably be too slow to be profitable, and as the trees would not be matured in less than forty to fifty years the Ash must be ruled unsuitable for the present object.

**BEECH.**—Very hardy and grows freely, especially on the limestone and chalk, but the wood in a young state is proverbially not durable. When matured it is by its closeness valuable for tools and furniture; but as the Beech cannot with certainty be perfected in thirty years it also must be "out of court."

**ACACIA** (*Robinia pseudo-acacia*).—Hardy and a quick grower in a young state. When matured its timber is extremely durable, but the tree does not arrive at maturity in the time named. It is a handsome but not a profitable tree.

**CHESTNUT.**—Neither the Sweet nor the Horse Chestnut can be regarded as profitable trees, although they are quick growers in good soils.

**LIME.**—This is also a quick-growing, hardy, and handsome tree. Its wood is soft, and is useful for turning and for musical instruments. The Larch would buy a horse before the Lime would a donkey.

**SYCAMORE.**—This is a very hardy tree, and grows freely in almost all soils. When its wood is matured it is always in request, but in a young state it is comparatively valueless. For early profit it is greatly inferior to the Larch.

**BLACK POPLAR.**—This tree also is mentioned. It is the quickest-growing of all, and its timber is useful for many purposes, and is less inflammable than most wood. It spreads and overtops most trees, and in that respect is occasionally injurious to its neighbours. The wood yields no profit for many years, and in this respect is certainly inferior to Larch. Larch, therefore, I consider must be relied on to produce the greatest profit in the time stated, and thus question No. 1 is disposed of.

As to question No. 2—distance of planting—I regard 3 feet as being fully too close. The practice on the estate with which I have experience is to allow four thousand trees per acre, which is nearer 4 feet than 3 feet apart, and that practice has answered well.

3, Preparation of the land. This is an important matter. First see that it is well drained, and let me remark that in draining land for trees shallow drains are useless; to be effectual the main drains should be 4 feet deep. The ground cannot be trenched. The next best plan, and it would be very profitable, would be to have it deeply dragged with the steam cultivator, going over it several times. This would loosen the subsoil to a depth of 14 inches. A little first cost in this respect would be true economy. At any rate work the soil as deeply as possible, bringing it by repeated draggings into a free workable state, such as is necessary for a crop of Potatoes. That will compensate for manure, which answers question No. 5.

I will now take the question preceding—No. 4, as to time of

planting. Where the land is in a pliable state and rabbits do not abound I advocate planting in November, otherwise I would defer it until February or early in March. I have known thousands of trees which have been planted in November completely ruined by rabbits during a severe winter following, and the work of planting many acres has had to be done over again in the spring. Again, if the soil is of a very heavy nature it cannot, without much labour, be made sufficiently fine for placing round the roots of the trees immediately after the holes are dug for them, whereas if the holes are made early in the autumn the soil becomes ameliorated by the frost and air, and during the fine weather of early spring a portion at least of it crumbles down, enabling the planting to be well and expeditiously done. My advice, therefore, is in rabbit-infested districts to plant early in spring, and when the ground is heavy to make the holes for the trees in the autumn, planting afterwards when the weather is suitable and the soil has become in a useful measure pulverised. Having the land well drained and thoroughly working it are measures of the greatest importance in ensuring a quick and satisfactory growth and a profitable return on outlay. By adopting these means and planting Larch I have seen hundreds of acres of land that did not bring in a shilling a-year to the owner, brought into a condition so as to be regarded as satisfactorily lucrative, equalling in this respect the agricultural land under tillage on the best portions of the estate. If such results can be attained by planting trees on bad land, what may we expect from land that is in good cropping condition?

I now come to the last question, as to the probable value of timber per acre at the end of twenty-five years. It is impossible to answer that question, as so much depends on the progress which the trees make and the way in which they are managed. I can say that Larch plantations which thrive well and are judiciously managed will yield a clear profit of £3 per acre over any number of years sufficient for the trees to become matured.

Larch is the most profitable of all trees where quick returns are required. The trees are of rapid growth, and in a very few years (six to ten) the trees are of a sufficient size for many useful purposes, and the thinnings of well-grown trees of that age always sell readily. Larch possesses this advantage over almost all other trees, that the wood is valuable when in a quite young state. When used as stakes or poles—hop poles, no other are so endurable as Larch. In its larger stages when used for rails and fences, and even posts, no other timber is so good at its price and none, save Oak, and this must be matured, lasts so long. When still further advanced Larch is in continual request by railway companies for sleepers and by proprietors of mines for supports, and for general agricultural purposes; also for scaffolding it is the most useful of all timber. Its bark also is valuable, and is always saleable at remunerative prices for the tannin which it contains. A greater number of trees can be perfected on a given space than of any other kind of tree; in fact, it combines qualities, which are advantages to the grower, in a greater degree than does any other tree with which I am acquainted.

It will grow anywhere if well treated—that is, if the soil is well drained and kept free from stagnant water. It is not enough to drain at the first and suffer the drains to become choked afterwards. Already there has been too much money wasted in that kind of draining. The drains must be good and kept clear at their outlets, and then will the soil be kept in a healthy state, and the trees will continue to improve and prosper until they attain to maturity.

In making holes for trees do not be afraid of the spade. A large hole takes scarcely any more making than a small one, and when the spade is on the spot it is only the work of a moment to sink it into the bottom of each hole, loosening the soil thereby to a depth from the surface of 16 to 18 inches. Planting must also be carefully done, and the roots of the trees should not be exposed to the drying effects of the air a moment longer than is absolutely necessary.

Where winged game is required it is well to plant a Spruce Fir here and there, and especially at the margins of plantations, starting with the Spruce in the fourth row from the margin, and placing a tree in every fourth hole. Another row behind that and the same distance from it as the trees are apart, forms an evergreen fringe affording shelter and privacy to the "feathered friends" which are frequently so greatly valued and jealously preserved.

When plantations of Larch are formed solely for growing hop poles (which I am informed is lucrative) the trees are



planted as closely as 2 feet apart. For this purpose of growing Larch I have had no experience, my practice having been limited to plantations established for growing useful timber. The trees should be thinned so soon as there are signs of crowding and when the lower branches show evidence of decay—not waiting until decay has set in and the bottom branches perish, for then injury is done which is in all probability irreparable. On the other hand the trees must not be thinned too soon or too severely, or the upward growth will be less rapid and the poles less regular and less straight. There are thousands of acres of land which are now useless which might be rendered profitable by being planted with Larch and properly tended, and I am glad to see that attention is being given to a subject which is unquestionably of national importance.—A FORESTER.

### ROSE ELECTION.

THE poll will close on Wednesday, September 20th. Any Rose-growers wishing to record their opinions will kindly communicate their replies to me at once, as there is much to do before publishing, and I wish the result to appear if possible this month or the first issue in October. I repeat the questions.

1, Name the fifty best Roses in cultivation according to your judgment. Underline the best twenty of these.

2, What is the best stock for Roses?—JOSEPH HINTON, *Warminster*.

### PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

*LILIU PHILLIPINENSE.* *Nat. ord., Liliaceæ. Linn., Hexandria Monogynia.* Flower white.—“It is a native of the Philippines, and was sent by Mr. Wallis to Messrs. Veitch, and first flowered by them in August, 1873. Whether it will prove hardy still remains to be seen, but the mountains in the Philippines are said to reach a height of 10,000 feet. Botanically it is interesting as showing the extreme development of the peculiarities that mark the Eulirion group.”—(*Bot. Mag., t. 6250.*)

*LYCASTE LASIOGLOSSA.* *Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.* Flower yellow.—“*Lycaste lasioglossa*, so named from the hairy lip, is a native of Guatemala, from whence it was imported by Messrs. Veitch.”—(*Ibid., t. 6251.*)

*BEGONIA DAVISII.* *Nat. ord., Begoniaceæ. Linn., Monœcia Polyandria.* Flowers scarlet.—“It was discovered in Peru, near Chupé, at an elevation of 10,000 feet, by Mr. Davis when collecting for Messrs. Veitch, and it flowered in their establishment in July of the present year.”—(*Ibid., t. 6252.*)

*DRACENA FRUTIGOSA.* *Nat. ord., Liliaceæ. Linn., Hexandria Monogynia.* Flowers green.—“The plant has the general habit and lax leaves of the Mauritian and tropical African *D. reflexa*, Lam., but is more robust, with larger leaves and flowers, and a longer perianth tube. It flowered in the Palm house at Kew in April, 1862.”—(*Ibid., t. 6253.*)

*ONCIDIUM STRAMINEUM.* *Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.* Native of the mountains of Mexico, and requires cool treatment.—“*O. stramineum* belongs to a small section of the genus, and according to Lindley is easily recognised by its rigid unspotted leaves, not keeled at the back; its flowers have a faint primrose odour. It first flowered at Kew in May, 1866.”—(*Ibid., t. 6254.*)

PEACH—*Grosse Mignonne*.—“It is most desirable that this, one of the best of all our large mid-season Peaches, should be well known among cultivators, and so indeed it is, and fully appreciated by the most intelligent amongst them. A walk through many a country house would, however, prove that this knowledge, though widespread, is by no means universal. The fruit is of large size, roundish, somewhat flattened, with a deep suture at top; the skin, which is clothed with thin soft down, is of a pale straw-yellow, mottled with red towards the sunny side, which is of a deep crimson or brownish-red. The flesh is pale yellow, rayed with red at the stone, from which it parts freely, melting, very rich, juicy, and highly flavoured, surrounding a small slightly-pointed stone. It belongs to the group with large flowers and round glands, and is less subject to mildew than some other sorts otherwise of high repute.”—(*Florist and Pomologist, 3 s., ix., 205.*)

### DESTROYING WASPS' NESTS.

In a recent issue of the *Journal of Horticulture* I notice one of your correspondents recommends growing Tomato plants in hothouses as a protection for Grapes against wasps. I have had

two such plants, but directly the Grapes became ripe the wasps commenced their attack. On reading the above suggestion I thought I would surround one of the finest bunches attacked by wasps with several branches of the Tomato plant, but as far as I could see it had no effect, except in making them more determined to carry off their prey. I may say that the best way to destroy wasps' nests in the easiest, cleanest, and most effective manner is to pour benzoline down their nest, and a lighted match being applied up go the vagabonds.—J. T.

### ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 5.

WE turn next to the sub-genus of the *Abies* which is known by the name of *Picea*, and of which the best known species is the common Silver Fir, or *Picea pectinata*, which owes its introduction to this country to Serjeant Newdigate, its importer from Switzerland in 1603. Of slow and critical early growth, it makes up for this by rapid strides after 4 or 6 feet of growth; but it does far better in moderate shelter than as a tree in the open, yielding finer and more close-grained timber when grown *en masse*. It is observed by Grigor that it is unfitted for the elevations suitable to native Pine and Larch, and in its original haunts is not unfrequently associated with the Oak. At Long-leat there is a Silver Fir 125 feet high and 4 feet 6 inches round. Another, in Herefordshire, is more than 120 feet in height, and has a girth of 11 feet 9 inches at 5 feet from the ground; but few other such are to be found in the English counties. Its upper leaf is of a shining dark green, with two silver lines on each side of the midrib beneath. Like the common Silver in habit, though not in the glossy green of its shoots and foliage, the Californian *Picea grandis* claims a vacant space in plantation or pinetum, where it will weather the late frosts which check the early growth of many of the Silver Firs. Its forty years' experience of English soil promises a magnificent Conifer in the future, as it is said to reach 200 feet in its native country. An odd fifty is said to be added to this tale in California by the *P. amabilis*, of the same date upon English soil, and of bright green hue, with glaucous under foliage. But the most distinct, if not the hardiest, of Californian Silver Firs which we have naturalised is the *P. bracteata* (1857), a slender straight-stemmed tree, with bright green leaves above, and ribbed with two silver lines below. Its bracteæ, or leaves of inflorescence, are wedge-shaped and peculiar. Its habitat is in the limestone districts, into which, therefore, the owners of English chalk-lands should introduce it; and it has been observed that its tendency to start too early into growth, only to be checked by a late frost, may be corrected by planting in a north or west aspect.

But even the stoutest of new-world *Piceas* fails to match in constitution the Crimean *P. Nordmanniana*, introduced in 1845, and apparently unsusceptible of frost and indifferent as to soil. In forty years it has attained 38 feet at Dropmore, and in its own mountains its maximum is 100 feet. The secret of its unbroken vigour appears to lie in its not beginning to grow till the season is well advanced; but what is manifest is that it makes rapid growth, waxes a great and well-balanced tree in a few years, and is as ornamental in its dense clothing of light green foliage as it is useful (we are told) for its good and hard timber. Two other Silver Firs deserve mention—the *P. cephalonica* for its dagger-shaped foliage of dark shining green and regular tiers of branches, on which it stands nearly at right angles. Its stem is apt to be bulky in proportion to its height, and it thrives best near the seacoast. It is found in different mountain districts of Greece, but was introduced to England from *Cephalonia* in 1824. Not unlike it in its earlier stages of growth is the Spanish *P. Pinsapo* (1836), but the latter is broader in leaf and less particular as to soil and situation. It is a cylindrical tree in habit, with a sluggish leading shoot but vigorous laterals, which require space and elbow-room. Deservedly a favourite, it merits a place in the pinetum and the shrubberies, as witness the engraving at page 18 of Mongredien's “Trees and Shrubs.” The Indian *Pindrow* and *Webbiana* have their respective merits as ornamental *Piceas*, the former in its upright growth, the latter in its ultra-silvery underleaf. But these scarcely realise in little the descriptions that come of them from the Choir Mountains; and here, at least, they are not likely to make good or sound timber.

Before quitting the subject of the Fir tribes a passing tribute is due to the Larch, as of all Conifers that which has proved most useful and profitable to British planters. But the Larch

is so common, so remunerative, and, for its peculiarity as a deciduous Conifer, with the brightest of green leaves in early spring-tide, so memorable, that its merits will not brook epitomising. There are one or two of these, however, for which we must claim a word. Mr. Mongredien gives its height 80 to 100 feet; Grigor quotes Larch at Paradise, in Aberdeenshire, at 102 to 106 feet high; and we have seen Larch felled in the south of England 96 and 104 feet. A disposition to be sceptical, too, has in some periodicals lately cast a doubt on the fertilising effects of the Larch foliage annually shed. And yet what is more natural than that for a tree, whose native habitat is a rocky mountain slope, with a soil composed of *débris*, this sort of deposit should be a provision of nature, along with the percolation of moisture, supplying nourishment and forfending drought? The experience of Mr. Grigor on this subject carries great weight:—

"No tree," he writes, "is so valuable as the Larch in its fertilising effects, arising from the richness of its foliage, which it sheds annually. In a healthy wood the yearly deposit is very great. The leaves remain and consume on the spot where they drop, and when the influence of the air is admitted the space becomes clothed in a vivid green with many of the finest kinds of natural grasses, the pasture of which is highly reputed in dairy management. And in cases where woodland has been brought under grain crops, the roots have been found less difficult to remove than those of other trees, and the soil has been rendered more fertile than that which follows any other description of timber."—(*Grigor*, p. 233)

Again, it has been urged against the Larch, with some show of reason, that when leafless its contour and character in a plantation is the reverse of ornamental. In a plantation, granted; but in the open ground, where care and culture may coax it to show its capabilities, few trees are so strikingly picturesque in point of stem and lateral branches. Whether, as we have seen it proposed, it is safe to dock the top of a young Larch in the open ground, by way of making it throw its growth into side shoots, we dare not give an opinion; but certainly where accident has anticipated the experiment, the result is a remarkable stem clothed from bottom to top with graceful and pendulous branches.

A glance at their leading representatives must suffice for such other tribes of the natural order of Coniferae as the Cedars, Cypressess, and Junipers; as also for the new family, of which the Araucaria is chief, and that very old and indigenous kindred, though not strictly coniferous family, the Yews or Taxaceae. All these make valuable contributions to modern parks or gardens. There is little need to dilate upon the Yew, whether in its familiar English form or in its fastigate Irish variety. Both are in their place in ancient churchyards, and the former doubtless adds a prestige to those spots of old England with which it has been connected since the Conquest; but except for the sake of sentiment, individual specimens add little to the greensward, though they are a thing of beauty and trimness when consolidated into a hedge, and have a weird solemn attraction where they arch their drooping branches so as to form a "ghost-walk." Although it were superfluous to allude to their importance to archers of the past and present, it may not be generally known that "a paling-post of Yew will outlast a post of iron." From the millenarian Yew to the comparatively recent Araucaria is a bold transition, but one suggested by the same inward sense that too many of these Chilian strangers about a place impart a formality and solemn aspect to be deprecated. None who have seen can easily forget the magnificent specimen at Dropmore, its height some 53 feet, its girth at 3 feet from the ground 6 feet 4 inches, and its spread of branches 28 feet in diameter. There are others doing well, if not so well, by the waterside in the same paradise; but the good taste of Mr. Frost, the veteran gardener whose judgment has satisfied so many successive masters, evidently recoils from undue multiplication of trees of so eccentric a character. Their *raison d'être* must be by way of contrast, here and there one in a mixed company; but least of all are they a success in an avenue, the fine Cedar of Lebanon avenue at Dropmore being no precedent for a similar use of Araucarias. Cedars, whether of Lebanon or of India, have an impressiveness; in the one case from the habit of growth and the horizontal display of branches, in the other from a weeping grace and a refreshing evergreen brightness. But all evergreens, except perhaps the Scots Pine (which is commonly bare of stem, and which deserves a connection with avenues by reason of the tradition that the oldest of them now in existence were originally planted in secret sympathy with the cause

of the exiled Stuarts), must fail to possess the charm of deciduous trees—Elms, Beeches, or Oaks, for the composition of an avenue, to wit, the different guise of the trees in winter and summer in and out of leaf.

As timber in this country, neither of the later introductions promises to attain a higher rank than the Cedar of Lebanon—a tolerable second-class; though were it not of a soft fibre this last, from the girth of its best samples at Strathfieldsaye, Sion House, and Shobdon, ought to take a higher place. The Cedar at Shobdon has a circumference of 29 feet 4 inches.—(*Quarterly Review*.)

## NOTES ON VILLA AND SUBURBAN GARDENING.

**THE GREENHOUSE.**—At this advanced season of the year it must be borne in mind that all the necessary means for ripening the growths of hardwooded plants as quickly as possible must be adopted, for if deferred much later not so good a chance of bloom can be secured; and as winter approaches those plants that are growing ought to have more air and exposure to harden and prepare them for the hardships of winter, which sometimes prove very destructive to them.

There is very little potting required after this time, excepting such plants as Cinerarias, and even these but once more, for too late potting often proves a failure. Calceolarias and Primulas, too, must now have special attention, as their roots ought to be in full action. Shift into larger pots the earliest plants of these as they become ready. All plants mentioned will be better for being fumigated at different periods; but this operation is better done as soon as an insect is discovered, for if fumigation is delayed after that there will not only be twice the trouble in destroying the insects, but there is great risk of the plants being thrown into a bad state of health. All fresh plants when introduced to the house should be examined at once and fumigated before they affect others. This is the way to keep up a healthy and clean lot of plants, for several smokings after the plants are injured by insects is so much labour thrown away.

Chrysanthemums may still be shifted into larger pots if not already done, and apply liquid manure to such as have their pots full of roots, and which it is intended not to shift again. They must all be staked and tied-out neatly, and if necessary many of them may have a top-dressing of rich soil. This is one very effectual means of keeping the foliage well on at the bottom of the plants, which is so desirable and ornamental.

Mignonette for pots should be sown immediately and placed in a cold frame near the glass, and when the plants appear give them plenty of air and light, and have them thinned out as soon as large enough and kept growing as fast as possible. Tree Mignonette, which is a most ornamental plant, should have its last shift before the month is out. This always requires to be sown early in May to produce good plants by autumn. Some sow the seed as early as March, and of course get larger plants and earlier bloom than the others; they will produce flowers through the winter; they are amongst the most ornamental, as well as being sweet-scented, plants in cultivation.

Pot the tuberous-rooted Tropaeolums in pots according to their size. They seldom require large pots, but the soil must be good yet not particularly rich. Loam and peat in equal proportions, and sand of the best quality added, with charcoal broken very fine and mixed well with the whole, will be found suitable. Good drainage must be secured. These plants do not like being repotted; therefore all things must be considered beforehand in such a way as to carry them through their flowering period most successfully.

As the stock of Japan Lilies go out of flower, ripen them off by laying the pots on their sides for a time before putting them away for the winter. The soil must not be allowed to become too dry, as the roots are very fleshy and should be ripened off gradually.

The plants of Amaryllis, which are now becoming dormant, must have attention. It is not a bad plan to shake them out of the soil and repot at once—that is, if they are in need of it. Potting once in two years is sufficient provided every precaution is taken at potting time to have the pots well drained. If the plants do not require potting a top-dressing must be given them. Some people do not pot them so often as I state if the plants are doing well; but the rule is, if potting is not done, to look to the drainage and renew it yearly, and surface-dress with rich compost, and to be careful that the bulbs ripen-off very gradually and well.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

We have sown Cauliflowers for planting-out in hand-lights and in boxes for spring use. Sowing earlier than the first or second week in September causes the plants to button in March or April. We sow the seeds in rows with the winter Onions; a

few seeds are mixed with the Onion seeds, and the Cauliflower plants are drawn out before they do any harm. Those who had put out plants in July will find them producing now, and they will continue to do so up to the end of October, according to the weather or district, whether it is early or backward. The hoe should be kept at work amongst all crops in the early stages of their growth, and when the plants are dry at the roots the earth may be drawn up round them in such a way that a shallow basin is formed, and when water is applied this holds it and causes it to go well into the ground near the roots.

It will now be time to earth-up Cardoons. The usual method is to tie the large leaves lightly together with haybands. The soil should be well broken-up and placed close to the plants as high as the bands. Other growers say, "Never earth-up Cardoons, but blanch them by tying the leaves closely together and thatching them over thickly with straw." The object in view is to blanch the leaves, and the best method is that which accomplishes this without causing them to rot. They last through the winter months and must be protected from damp and frost.

Spinach is a useful vegetable for the winter months. That which was sown last month will now require attention. Stirring the ground between the rows with the Dutch hoe encourages the growth of the plants; these should also be thinned-out by hand, and any weeds growing amongst them should also be pulled out. There is some danger of the kitchen garden being neglected at this season from weeds growing on the walks and borders and fallen leaves littering on the ground. All these should be swept or raked-up, and the weeds should be hand-picked from the walks.

We are still planting-out Coleworts on vacant ground. The early plants are put out about a foot apart, but so late as this 10 inches apart is sufficient. We begin cutting Coleworts early in November, and they are in use until the Sprouting Broccoli comes-in in the spring. Sprouting Broccoli and White Broccoli should also be planted-out now for the latest crops. It does best to be planted on hard ground, but it ought to have been well trenched and manured for the previous crop. Broccoli is a very good successional crop to Strawberries. These may be hoed-up; the ground should then be raked clean, and if it is very hard the Broccoli plants may be let in with a crowbar.

Lettuce intended to come into use in the spring may now be planted on a warm border where the plants are to remain during the winter. Seeds sown at once will also produce plants that are more likely to stand through the winter than those sown in August. Lettuce being so much esteemed as a salad, different plans may be tried to keep-up a succession through the winter months. Good-sized plants put out in a frame now will be sure to come in useful in November and December, and if the weather is mild they will improve in condition even in January. Sow seeds to produce a supply of small salading in drills under a south wall, or in any sheltered position.

#### PINES.

Plants, mostly Queens, intended to be forced very early next year have now attained their full development, and the house where they are growing is kept well ventilated and a night temperature of from 60° to 65° is provided. The plants receive only sufficient water to keep them in a healthy growing condition. The bottom heat for such plants ought not to exceed 85°. The varieties Charlotte Rothschild and Smooth-leaved Cayenne, which are now ripening their fruit, require a rather high temperature—from 65° to 70° at night will be suitable—with a rather dry atmosphere, and as much ventilation without exposing the plants to currents of cold air as possible. Succession plants which were potted early in August, and which are intended to fruit next summer, may be pushed forward with a temperature of 70° at night, or if it is up to 75° in warm nights no harm will be done. Close the house early in the afternoon, so that the sun heat may be utilised to keep up the temperature. A little air may be admitted at the top of the house early in the morning, even if the weather is dull and cold. This is quite as necessary as if it was bright and warm. Fresh air is the life and health of plants, and the longer a circulation of it can be kept up the better for the plants.

Suckers intended to produce fruit in 1878 need not be grown in a high temperature; there will be plenty of time for them to grow during next season. They should not be allowed to suffer for want of water at the roots, neither must too much water be given them. Watering Pines at the roots is an operation requiring great care; one man ought to have the entire charge of the watering, and it ought not to be trusted into other hands.

#### MELONS AND CUCUMBERS.

Melons have certainly been of very poor quality this year, and it is unlikely that they will improve now, but all that is possible ought to be done to bring the fruit up to the best flavour possible. It is little use to expect good fruit from frames after this time, and Melons ripening in heated houses ought to be exposed to light and air as much as possible. Lateral growth ought not to be encouraged. If the trelliswork is already covered with leaves all growth should be cut off that is not required, and this ought to be done before it is too hard. When it is left too long the

wounds at this season do not heal readily and decay sets in. 65° at night is a good temperature, with as much ventilation as possible without exposing the plants to cutting winds. Fruit ripening in dung frames should not lie on the ground but be elevated a little from it, but not so much as to expose the fruit to the sun. It ought to be shaded by the leaves to prevent scalding. As the fruit approaches the ripening stage it ought to be more exposed to the light.

Cucumbers in dung frames also require much attention at this season; a lining of hot manure or any fermenting material that would throw the heat into the body of the soil will be of much service in causing the plants to make growth. The more rapid that Cucumber plants grow the better is the produce. The frame ought not to be allowed to become crowded with growths, as the fruit in that case does not set well, is often mis-shapen, and otherwise of inferior quality. After this time Cucumbers are of the best quality when grown in heated houses and trained to a trellis near the glass. Should the leaves become infested with red spider they ought to be syringed every morning with clear water that has been standing in pots over the pipes through the previous night. Mildew is easily destroyed (if it is not allowed to spread to a serious extent) by dusting the affected parts with flowers of sulphur. The old growths ought to be cut out as much as possible, training the young shoots in the place of them. The night temperature should be 70°.

#### GREENHOUSE AND CONSERVATORY.

There is generally a difficulty with us in keeping up the display of flowers from this time until the *Chrysanthemums* come into flower. Zonal Pelargoniums and Fuchsias are the best soft-wooded plants for flowering at this season; there is also a very great variety, both of colour and form of flower, to be obtained from them. Amongst Fuchsias there are not only new varieties of the old florists' type in abundance, but some very ornamental and desirable species have been recently introduced. A new species with deep rich crimson-coloured flowers was exhibited by Mr. Cannell last week, *F. Boliviana*; the same exhibitor also sent a distinct variety with sub-erect flowers, and a variety of the florist type with a tinge of orange in the corolla. Mr. Laing of Stanstead Park has a hybrid of the *F. fulgens* type; and the pretty little species from Australia introduced by Mr. Kinghorn of Richmond, *F. procumbens*, is well adapted for small baskets or vases. Where a large quantity of flowers is required at this season the Fuchsia and Zonal Pelargonium are of great value.

Some hardwooded plants which have made more and stronger growth than it was expected of them will still require to be repotted. This work must not be longer delayed. I well remember potting a number of hardwooded greenhouse plants in October. It was north of the Forth, where the sun does not have much power, and the plants did not root into the new material as was expected, the result being that some of them died during the winter. The others received a check, which they did not overcome for a season or two. Of course it was natural to suppose that this would be the case even if the watering had been done in the most careful manner. It was not possible to prevent the fresh soil from becoming sodden when there were not roots to absorb the moisture from it. The roots are sufficiently active at present to start into growth at once; but repotting ought to be seen to without delay. Some hardwooded plants are very liable to the attacks of mildew, others become infested with red spider. Both are insidious enemies, and must be watched for with the utmost vigilance. Some plants which are liable to the attacks of red spider are syringed every day; of these may be named the different species of *Boronia*, *Pimeleas*, and *Statice*. When mildew attacks a plant badly a good plan is to lay it on its side with a newspaper spread out under it, then thoroughly dust the plant with flowers of sulphur. Let it be turned over so that the upper and under sides of the leaves are quite powdered. When the operation is finished gently shake the plant to free it from superfluous sulphur, and that which falls on the paper can be saved and used at another time. Care must be taken to prevent a large portion of the sulphur from falling into the pot. Much of it sadly injures the roots of some plants.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Dick Radclyffe & Co., 129, High Holborn, London.—*Catalogue of Bulbs, Seeds, and Horticultural Decorations.*  
Hooper & Co., Covent Garden Market, London.—*Catalogue of Bulbs, Spring Flowers, Seeds, and Fruit Trees.*  
Stephen Brown, Weston-super-Mare, Somerset.—*Autumn Catalogue of Bulbs and Flower Roots.*  
Barr & Sugden, 12, King Street, Covent Garden, London, W.C.—*Catalogue of Bulbs and Plants.*  
S. Dixon & Co., 34, Moorgate Street, City, London.—*Catalogue of Dutch and other Flower Roots.*  
Edmondson Brothers, 10, Dame Street, Dublin.—*Autumn Catalogue of Dutch Bulbs, Gladioli, &c.*  
James Dickson & Sons, 108, Eastgate Street, Chester.—*Catalogue of Dutch Flower Roots, Seeds, and Garden Requisites.*

Messrs. Daniel Bros., The Royal Norfolk Seed Establishment, Norwich.—*Illustrated Catalogue of Dutch Flower Roots.*

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

IPSWICH. September 17th. See, Mr. W. B. Jeffries, Henley Road, Ipswich.  
NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.  
LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

ORNAMENTAL GRASS (*G. Diss.*).—Your specimen is *Stipa pennata*, Feather Grass. It is a perennial, native of Great Britain.

DWARF KIDNEY BEAN (*W. H. O.*).—It seems to be similar to the Dwarf White Dutch. Its pale colour is not a recommendation, for bright green is desired by cooks.

SEEDLING BEGONIAS (*J. P.*).—The flowers sent, which have been produced by plants raised from seed sown in February, are large in size and good in colour. If the plants possess good habits and are floriferous, the varieties are worthy of preservation and increase.

LOBELIAS FOR EARLY FLOWERING (*S. J.*).—Sow the seed at once in light soil, keeping moist, and place in a close frame. If you water the soil previous to sowing the seed, and cover with a square of glass, and keep dark for a week or until the seed germinates, you will not have occasion to cover the seed with soil or sand. The seedlings may remain in the pot or box throughout the winter, pricking them off early in spring. The plants will be some weeks earlier than plants from seed sown in spring.

ROSE SEED AND CUTTINGS (*J. Turtle*).—We do not know of any seedsman or florist who sells them. You must apply to your amateur friends. In propagating by seed Mr. Macintosh says—"The seed vessels should be left on the trees until they are perfectly ripened, at which time the skin of the hip or vessel becomes almost black. They should then be placed in small pots embedded in sand, and each sort kept separate, and buried underground till spring. About the beginning of February is a good time to prepare for sowing; at which time the seed pods should be taken out of the pots and rubbed between the hands until the seed becomes separated from the pulp and skin. They should then be sown in pots or pans, in light loamy soil, and, when watered, covered to the depth of half an inch with the same compost mixed with a little sand. They may then be placed in a cool pit or frame, or plunged at the bottom of a well, and kept in a uniform state of moisture. The plants will appear during summer, and be fit for transplanting the following spring. Many of the seeds will not vegetate the first year, therefore those which remain dormant should be picked out when the young plants are removed and resown, when they will, for the most part, vegetate during the following season. Some of the autumnal varieties will flower the first year, but none of the summer sorts will do so till the second, third, or fourth year. The young plants require shading during hot sunshine, and a regular supply of water, as they are liable to suffer from an excess of the one or a deficiency of the other. As soon as the seedlings have formed their second leaves they are fit for transplanting; their removal, however, must take place with a due amount of care, lest the seeds just germinating be injured by the operation."

NEW BEGONIAS.—Messrs. E. & J. Perkins inform us that first certificates were awarded for Excellent and Majestium by the Royal Horticultural Society. These fine plants and varieties were noticed in our report of the meeting.

DAHLIA EARL OF BEACONSFIELD was exhibited by Mr. G. Rawlings, Romford, and not by Mr. Turner, as inadvertently stated in our report of the Floral Committee's meeting. It had a first-class certificate awarded.

VINES NOT GROWING (*Ted*).—It is probably because the roots were not disentangled when they were planted. We advise you to disentangle the roots, plant afresh, and treat the vines according to instructions given in this Journal. Paraffin or boiled oil, either of them applied with a small brush, will destroy American blight.

STRAWBERRIES FOR SANDY SOIL (*Weston*).—It is unsuitable for Strawberries, and good fruit can only be obtained on it by careful watering and surface-mulching. Vicomtesse Hericart de Thury, Myatt's Eliza, President, Sir Charles Napier, Sir Joseph Paxton, and Dr. Hogg are as suitable as any.

IRISH PEACH APPLE (*Dorset*).—This is one of the most valuable of early dessert Apples, ripening in August. You should certainly add it to your collection. See "WILTSHIRE RECTOR'S" estimate of this Apple in another column.

PERENNIAL ASTERS (*Wimbledon*).—You can obtain plants from nurserymen and florists who deal in hardy flowers. Notes on their cultivation and a list of sorts are in N. 778, the issue of February 24th of the present year.

VARIOUS (*J. Rhodes*).—We should remove the surface soil and add fresh to the bronze Pelargoniums, and repot them when commencing fresh growth in the spring. Snowflake is a kidney Potato, but any tubers which are perfectly round would not, we think, be disqualified in the round classes. Red spider may be prevented by regularly syringing your Cucumbers next year. The Victoria and Quilled Asters are suitable for exhibition.

HEATING A SMALL GREENHOUSE (*S. S.*).—You do not state the size, construction, or any particulars as to site of your greenhouse. You will find what you require by consulting our advertising columns, selecting either a stove or hot-water apparatus as is most suitable to your requirements and circumstances.

LARGE GRAPES (*Amateur*).—The largest black Grape is Gros Colman, but it requires heat to produce it of good flavour; and the largest white Grape is Duke of Buccleuch, a very sweet and juicy variety, ripening within the same house as the Black Hamburg. Several cultivators, however, have failed to produce good crops of "the Duke," while others have succeeded well in growing it. We should be glad to have information from those who have grown this variety.

HYACINTHS FOR EXHIBITION (*West London*).—Some of the finest varieties are the following:—*Whites*: La Grandesse, L'Innocence, Mont Blanc, Paix de l'Europe, Alba maxima, and Madame Van der Hoop. *Blues*: King of the Blues, Argus, Baron Van Tuyl, Czar Peter, General Havelock, and Princess Mary of Cambridge. *Reds*: Garibaldi, Vurbaak, Prince Albert Victor, Lord Macanlay, General Fellsissier, and Von Schiller. *Yellows*: Obelisque and Bird of Paradise.

TULIPS FOR EXHIBITION (*Idem*).—Chrysolora, Proserpine, Vermillion Brilliant, White Pottebakker, Keyserkroon, Joost Van Vondel, Queen of Violets, and Roi Pepin.

FRUIT TREES LUXURIANT (*T. S., Bradford*).—You may cut out at once all exuberant and crowded growths, not leaving them until the winter pruning. Possibly your trees may require root-pruning for cutting-back luxuriant shoots severely and leaving the roots unchecked, is only preparing for similar and possibly still stronger wood being produced next season.

PEACHES INSIPID (*Reader*).—It is not the characteristic of Peaches grown in pots and in the full sunshine under glass to be of inferior flavour, and 15 to 18-inch pots are quite large enough for the trees. We generally have them of superior flavour, but this season they are not so good as usual, but they are certainly as good as they are grown on the open walls or in Peach cases. We believe the feeding with manure water, and, perhaps, giving the trees too much of it, is the reason. We never give manure water, preferring to supply extra nourishment from surface-dressings. We also advise you to omit the bones in potting. Water must be given more sparingly when the fruit is swelling-off.

MANAGEMENT OF PINES (*An Older Subscriber*).—You will find full instructions by referring to "Doings of the Last Week" in our back numbers. You should now plunge the pots in a bottom heat of not more than 85°. Keep the plants moderately dry at the roots, with a night temperature of from 60° to 65°. Admit air as freely as possible, and let the atmosphere be rather dry. Watch for future information in the "Doings."

PEACH TREES ON BACK WALL OF VINERY (*W. Hartley*).—As you will have 6 feet width of border outside, the same inside width will be sufficient. This will give 7 feet 6 inches for the Peach trees. A 4½-inch wall set in mortar will not prevent the roots from going through it, but if it is well set in cement the object will be attained. We ought to inform you that you cannot grow Peaches successfully under the shade of Vines.

SEEDLING GERANIUMS (*H. Cannell*).—The flowers are very distinctly striped, but no one can give an opinion on their merits from single pipes.

WINTERING GERANIUMS AND CALCEOLARIAS (*A Reader*).—We should not have put in the Calceolaria cuttings until the early part of October, for which your cold pit would answer admirably. There will not be any necessity to remove any of the dung and soil used for the Cucumbers, but seeing that the soil is in a thoroughly moist state, cover it with an inch of sand, and put in the cuttings in rows 2½ inches apart and 2 inches between the cuttings, giving a good watering after insertion. The lights may be put on, but we leave ours off until frost, it being important that the cuttings be kept cool. Keep off heavy rains, and give air whenever the weather is favourable. Protection should be given from frost; mats and straw placed over the lights and some litter placed against the sides will suffice, neither of which should be removed so long as frosts prevail, but in all mild weather the Calceolarias cannot have too much air. We should have the Geraniums potted or put into boxes so soon as rooted, and winter them in the house windows. It is very unlikely that you will succeed in wintering them in a frame. The cuttings may be put in rather thickly in the pots or boxes, and in spring be potted-off singly and grown-on in the frame after the Calceolarias are planted out, as they may be after the middle of March, affording them a slight protection from frosts.

WINTERING BEDDING PLANTS (*X. Y. Z.*).—You might be able to winter Calceolarias in a frame made out of the old window lights, but you have no chance of preserving Geraniums and Heliotropes over the winter with no room for them indoors. Surely you have windows. The plants taken up and potted would succeed admirably if kept rather dry, the large leaves being removed from the Geraniums. The Erythrina Cristagalli will require to be taken up after the first frost, and the top being cut away the roots may be kept in sand in a place safe from frost. Fuchsias, after their leaves have fallen, may be wintered in any place light or dark which is safe from frost; they require very little water when thus preserved.

MINERAL OIL STOVES (*T. F. K.*).—We have no experience of their use. Write to the vendor for references to those who have used them. One thing is certain, no fuel can be burned without injury to the plants in a greenhouse unless the fumes are conveyed by a chimney into the outer air.

WINTERING ECHEVERIAS (*Mr. Owen*).—They are half-hardy, requiring to be taken up before frost and potted in rather poor loamy soil, and kept rather dry over the winter in a light airy position in a greenhouse safe from frost, or they may be wintered safely in a room window.

DIELYTREA SPECTABILIS and SPIREJA JAPONICA (*Idem*).—Both succeed admirably grown in pots, and are very fine. Take up the plants after the foliage dies down and pot them, plunging the plants over the pots an inch or two in ashes, and remove to the greenhouse or house after Christmas.

LATE DESSERT APPLES (*Idem*).—Bradrick's Nonpareil, Court Pendu Plat, Lamb Abbey Pearmain, Reinette du Canada, Sykehouse Russet, and Sturmer Pippin.

NAME OF FIG (*W. K.*).—We could not name an imperfect fruit without the aid of leaves.

INSECTS ON PEACH TREES (*Idem*).—If the dirty-looking insect is aphid it may be destroyed by fumigating. You had better not burn sulphur on the gravel paths.

NAME OF TREE (*Schubert*).—We cannot name any plant from leaves only.



NAMES OF PLANTS (*F. E. H.*).—It is *Woodwardia radicans*, and is, perhaps, kept in a temperature unsuitable. We cannot name plants from leaves only. (*W. H. O.*).—*Asclepias curassavica*. (*Snapdragon*).—The blue flower is *Polemonium reptans*. We cannot name florist's varieties. (*E. O. T.*).—*Funkia ovata*. (*P. Edwards*).—Cannot name from fragment sent. (*W. D.*).—1, Perhaps *Costmary* (*Tanacetum Balsamita*); 2, *Sneezewort* (*Achillea Ptarmica*); 3, *Mentha rotundifolia*. Specimens bad. (*F. P.*).—*Lastrea dilatata*. (*Ecce*).—1, *Sedum spectabile*; 2, *Symphoricarpos racemosus*, St. Peter's-wort, and known also as the Snowberry. It is a hardy deciduous shrub from North America. Your post-box is simple and effectual, a pattern of its kind.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### THE PORTSMOUTH POULTRY SHOW.

WE mentioned a week or two back that the Portsmouth Committee were doing all in their power to make wrong right, and we wondered what shape the indulgence they asked for would take. Before the lines were printed almost the secret had transpired, and the "little indulgence from the exhibitors" is 10s. in the pound. We do not call it a little one, but a gigantic one, and one we hope exhibitors will not agree with at all. In the little epistle which accompanies the balance sheet the Committee generously state that "it would have been much more satisfactory to them could they have paid in full." We concur, and expect even now that many will insist upon full payment, notwithstanding the balance sheet and the £290 13s. 4d. We quite think the time has come to investigate the principles upon which these erring exhibitions work, and we hope exhibitors will themselves take up the subject, for after all the matter is only of importance to them. About this Show we have had letters from all sides speaking in the strongest terms, and we really do not wonder at the anger displayed in them.

The balance sheet is very mystifying, and we could ask copious questions about it. We are quite sure all will have asked themselves the same queries, but for the benefit of those who were not prizetakers we will ask them here. (1), In the expenditure column £54 we read has been spent in prize money. We ask, Was this paid in full, and why have some been paid and not others? (2), We read judges' fees and expenses came to £27 16s. as if they were paid, when we believe we are correct in stating that the expenses of one of the poultry judges had not been paid on September 1st. (3), Judges' dinner and refreshments came to £22 7s. 8d. Is it possible they can have partaken so heartily? or did they have a banquet? (4), Nine silver cups and hire of plate came to £25 12s. 6d. Does this include the cost of all the plate? If so, we know of one gentleman who has never received his cup, and we again ask, Why should some have done so and not others? (5), We find the balance to the bad is put down at £290 13s. 4d., but this £117 10s. 9d. was the debt of the past year, and it does seem monstrous to try and make exhibitors on this occasion pay debts contracted by the Committee in past times. It really looks as if this last event had been got up merely as a speculation, something like the Birmingham Summer Show affair, with a "sink or swim" sort of feeling. It surely was wrong for a show so much to the bad to incur the fresh risks of another exhibition, and having done so to try and get their exhibitors to make up their debts. We are sure the Committee will get no sympathy, for even on the day when the public had to pay 6s. each to go in and see the judging, not one of the officers seemed the least anxious for the welfare of their visitors, as nothing could draw out from them the winning numbers in the various classes, their thoughts seemingly being entirely concentrated upon the banquet which was to come off later on. We should be glad to hear what exhibitors mean to do in the matter. We will support them in every way, and we know of some who mean to put the matter into the County Court. Anyhow, we would beg that no one should agree to take less than their dues until matters have become more arranged, for we do not see why this Show, like the Aston Park *fiasco*, should get into the difficulty it has done and out again so easily. We are assured that some of the Committee are in a position to pay the debts, and we do not see why their supporters, who went to great expense in entrance fees and carriage, should only be the losers.

To give an idea of what fanciers think of this affair, we will quote from one or two letters. One exhibitor says it cost him £7 sending to and entering at the Show, and he writes, "It is quite time these wrong doings were put an end to—this last affair has made the cup run over." Another writes, "It is the coolest document I ever read. I have represented that cups are put down in the expenditure, and that I have never received mine. Could not you expose the proceedings in the Journal?" While another writes, "My reply to their disgraceful circular was that I had not the least intention of accepting 10s. in the pound. Had the Committee not guaranteed payment within fourteen days I should have acted very differently, but under the circumstances and owing to the incivility of the Secretary not replying to several letters I feel indisposed at this late date to

accept their offer. At any other show not casting abroad such 'baits' I should pity them, and accept such an offer." We could quote from many more, but we have shown the opinions of three of our largest exhibitors, and we believe nearly every other one agrees with them. We say, then, let the matter be clearly settled once for all, so as to know whether committees can do as Portsmouth wishes to do, and come out of the affair as pleasantly as they commenced it.—W.

### ABANDONMENT OF THE ALEXANDRA PALACE POULTRY AND PIGEON EXHIBITION.

You will doubtless have seen Mr. Tegetmeier's announcement of the abandonment of the Alexandra Show, but we feel that your readers and the whole of the breeders and exhibitors throughout the kingdom should be furnished with full particulars of this lamentable *fiasco*, in order that they may know where the real blame lies.

You are aware that we as Secretaries, with Mr. Tegetmeier as Treasurer, carried out the Poultry and Pigeon Show last October, and the Cat and Rabbit Show in the spring of the present year, and we flatter ourselves that the mode in which these two shows were conducted was such as to earn the approval of the bulk of our exhibitors, and we have reason to know that the authorities at the Palace were satisfied with our arrangements. It is also perfectly clear from the many and kind expressions of good will and promises of support we had received from exhibitors in every direction that the Show announced to take place in October would have proved a triumphant success, and we deeply regret that circumstances over which we had not the slightest control have prevented its being carried out.

In anticipation of the Show, and in connection therewith, so long ago as March last an interview took place between Mr. Tegetmeier and one of the chief members of the executive staff of the Palace, the result of which was that after corresponding with secretaries of some other shows, the date of the Alexandra Show was fixed and duly announced in the poultry papers, and from that time we have been actively engaged in the necessary arrangements for carrying out the Show, and that the authorities at the Palace were fully aware of our movements is evident from the fact that, in consequence of our having no permanent office in London, a large number of letters have during the last two or three months reached our hands through the Alexandra Palace, having been addressed to us there by the writers, and forwarded to us day by day by the Palace officials. Yet, in spite of all this, at the eleventh hour, when all our preliminary arrangements were completed, and without our having received the slightest previous intimation of even the probability of such a thing occurring, on the 25th August Mr. Tegetmeier received from the Palace a telegram to the following effect—"There will be no Poultry Show this year. See me as soon as possible." Of course no time was lost in placing ourselves in communication with the authorities at the Palace, as we could only imagine there must be some mistake, not thinking it possible that such a thing could happen. Nothing definite, however, could be done until the meeting of the Board of Directors on August 31st, but from what transpired during the interval we were justified in hoping that the catastrophe would be averted, and that the Show would yet take place. When the Board met, without affording us any satisfactory reason for their course of action, and entirely ignoring the arrangements entered into with their officials, they determined, owing, we believe, to some radical change in their policy, that no Shows whatever were to be held this year. It was in vain that it was represented to them that we had been at work for months on the Show, that we had incurred considerable expense and serious responsibilities, that we had engaged eight gentlemen from various parts of the country to act as Judges, that offices were rented for which we have now no use whatever, that our schedule was in type all ready for issue, that we had two or three thousand postage wrappers already addressed, besides a large quantity of stationery and envelopes stamped and printed for our use, and that as men of honour we should be seriously compromised if we were unable to keep faith with the public and those friends who had so kindly promised us their assistance and support. Nothing would move them for their determination. We offered to forego any pecuniary arrangement we had made with them, and to carry on the Show at our own personal risk and responsibility, and to submit to any sacrifice rather than suffer the Show to collapse. All this had no effect, and we are therefore in our defence compelled to lay before your readers this plain statement of facts, and of what we cannot help feeling to be very bad and disgraceful treatment, which is to us perfectly incomprehensible.

With regard to our legal position in the matter, of that for obvious reasons we say nothing, and only trust that our friends, among whom we hope are included all the fanciers in the kingdom, will absolve us from all blame in the matter, and give us credit for having done all in our power to avert the abandonment of that which we had hoped and had good reason to believe would have proved a most successful exhibition, the loss of

which must prove a great disappointment to many hundreds of fanciers and exhibitors. We beg to tender our sincere and hearty thanks to those amateurs and exhibitors who had so kindly promised cups, subscriptions, and entries, to whom we hope to write individually in the course of a few days.—P. H. JONES, W. J. NICHOLS, 37, Farringdon Street, London, E.C.

### POULTRY AND BEE NEWS AND QUERIES.

THE Committee of the Leghorn Club have sent us one of their little pamphlets containing their rules and the standard of excellence. The former seem very carefully made, and that on trimming, No. 5, is very sensible. We read, too, that they propose to have honorary members (confined to non-exhibitors of Leghorns), which are to be elected at the discretion of the Committee. We approve of this, and hope it may lead to the fanciers of other breeds also following the example of their Leghorn friends, and so starting a club for themselves. We have often noticed that many of the cocks of this breed are very high in tail, which detracts from the graceful carriage of the birds; but we read in this new standard of excellence that "a squirrel tail is a disqualification." From what we have seen this year of chickens of the two colours we think size and colour of the earlobes are two of the most necessary points to breed for.

There seems to have been a perfect *bouleversement* among old-fashioned poultry exhibitions. We learn with much regret that the Alexandra Palace Show will not come off, but we hope the Committee will look out some place in London and so be able to hold an exhibition later on. The old-established mother Show, Birmingham, has pushed on her dates two or three weeks, and the Show will this year be held in the middle of December. Mr. Cambridge has arranged to have his annual reunion on December 1st, 2nd, and 4th. We believe Salisbury intends to hold a county Show, and will probably step into the date vacated by Bristol; while Oxford, alone so far, is setting to work with a grander schedule than ever, for the last Wednesday and Thursday in October as usual. The Crystal Palace dates we have not heard, neither do we know if Mr. Jennison holds his meeting this year in the Belle Vue Gardens, Manchester.

The Weymouth prize money was paid within eight days of the closing of the Show. It is a pity Portsmouth and Bournemouth did not do as well. It makes exhibitors look askew at those "monthly" towns; but we knew Weymouth would be up to the mark from the business-like way they moved from the beginning.

We are again requested to state that the new Ipswich Show has no connection with the old one. By-the-by, we see the date of the latter is now changed to November 23rd, while the Judges of the former are announced as Messrs. Hewitt, Teebay, Hutton, and J. Martin.

We have been favoured with a proof copy of the Oxford schedule, and can thoroughly recommend all fanciers to send for a copy. We hope to review it later on. The Pigeon classes are very numerous, and we hear there are altogether fifty-six cups or pieces of plate to be awarded in prizes. The Judges are to be the same as those in former years.—W.

### DERBYSHIRE SHOW OF POULTRY, &c.

THE annual meeting of the Derbyshire Agricultural Society was held on the 5th and 6th inst. Poultry and Pigeons were placed under two large tents, plenty of room being left for the accommodation of visitors. The pens were of wood with wire fronts, but these were particularly clean and well whitewashed. The poultry were all young except the Selling class, which was for any age.

*Dorkings* were a good lot. First Dark Greys, but the cock a little short of colour; second Silvers, in which pen the pullet was a very good one. *Spanish*, first very good, rest moderate. In *Game* was one grand pen of Brown Reds, to which the cup was awarded; second Black Reds, the pullet not as good, but cock smart; third Black Reds, very young. Any other variety, first Piles and second Duckwings. With the exception of the winners the *Hamburghs* were poor, but the second-prize Golden-pencil pullet was particularly good, the cockerel poor. *Cochins*, Buff poor, but the others better, the cup going to a good pair of Partridge. *Brahmas*, Light, a moderate lot, the cup going to the first pen, but the cockerel is too thin-bodied, the Dark not being as evenly matched. Black *Hamburghs* won in the Variety class, with *Houdans* second. The Selling class was a good one, as may be seen when we say a highly commended pen of *Brahma* chickens was better than the winning pen in the *Brahma* class, the first being Black *Hamburghs*, second Partridge *Cochins*, and third Booted Bantams. *Ducks* in both classes were very good, but several pens looked too old for this season's hatch, and must have been sent in mistake. *Geese* very fine.

*Pigeons* had a few classes. Carriers a good entry, but only about four good birds. Dragons bad except the winners.

Tumblers very good. First a capital Almond hen, second a cock, and very highly commended an Almond cock also. Fantails a very large and good class, the winners white. Turbits, a very pretty Silver hen first, and second also Silver. The Variety class good and large. First a Black Barb hen, second a Silver Owl, third a Black Barb cock, and extra third a Red Chequer Antwerp. The first in the Selling class was a good Silver Dragon, a Blue Turbit second, many others being noticed.

POULTRY.—DORKINGS.—1, F. S. Arkwright. 2, Hon. Mrs. Colville. 3, Dr. Snell. SPANISH.—1 and 2, S. W. Hallam. 3, W. Good. GAME.—Black or Brown-breasted Red.—1, T. B. Lowe. 2, T. Cook. 3, W. Cox. Any other variety. 1, G. Barnesby. 2, E. Winwood. 3, G. Lucas. HAMBURGHS.—Gold or Silver-pencil.—1, G. Ashpole. 2, S. W. Hallam. 3, C. Fickering. Gold or Silver-spangled.—1, S. W. Hallam. 2, G. Meynell. 3, C. Fickering. COCHINS.—Buff or Cinnamon.—1, Rev. R. Feilden. 2, Mrs. Radford. 3, E. Toon. Any other variety.—1, Rev. R. Feilden. 2 and 3, Rev. L. Storer. BRAHMA POOTRAS.—Light.—1, A. S. Webb. 2, F. Holbrook. 3, Dr. Snell. Dark.—1, E. Pritchard. 2 and 3, F. Holbrook. ANY OTHER VARIETY.—1, Rev. A. S. Webb. 2.—Sherwin. 3, F. Holbrook. CROSS-BRED.—1, S. W. Hallam. 2, S. T. Vernon. SELLING CLASS.—1, D. Lewis. 2, Rev. R. Feilden. 3, F. Holbrook. DUCKS.—Houen.—1, Dr. Snell. 2, C. Fickering. 3.—Sherwin. *Aglesbury*.—1, Dr. Snell. 2, J. Denson. 3, W. H. Crewe. *Geese*.—1, Hon. Mrs. Colville. 2, Dr. Snell. 3, R. Johnson. TURKEYS.—1, W. Cox.

PIGEONS.—CARRIERS.—1, H. Parker. Extra 1, J. W. Fletcher. 2, J. Brewer. DRAGONS.—1, H. Yardley. 2, M. A. Mason. TUMBLERS.—1 and 2, H. Yardley. FANTAILS.—1, J. Hawkins. 2, F. Holbrook. TURBITS.—1, H. Yardley. 2, J. Wood. ANY OTHER VARIETY.—1 and 3, H. Yardley. 2, H. Parker. Extra 3, G. Dumble. SELLING CLASS.—1, W. Woolley, jun. 2, J. Wood.

The Judges were the Rev. G. F. Hodgson and Mr. E. Hutton.

### BATH POULTRY SHOW.

THIS Exhibition was held in large tents in the College grounds on the 6th and 7th inst. The quality of the birds was very good, especially in the Dorkings, Cochins, and French. Rev. G. F. Hodgeon awarded the poultry prizes, while Mr. Tegetmeier officiated over the Pigeons. We heard of very few complaints, although each Judge must have had his hands full.

In *Dorking* cockerels the first won the champion cock cup. He is a brave bird, with more growth in him yet, and very perfect in feet. The first pullet was very fine, large in frame, and very fair in colour. In Silver cockerels the first was very forward in plumage, and won easily; second went to a pretty White, good in colour but a little faulty in toes; while the third went to a fine young bird with much growth apparently in store. In pullets the winners were very forward and good in colour. In Buff *Cochin* cockerels the first-prize bird was large and well grown, but he was not quite our style for colour. In pullets the first was very large and well shown; she won the champion hen cup, and we think on the whole she deserved it. In White pullets the first was in deep moult, and her pen was full of feathers. We certainly preferred the third-prize bird. In cockerels the first was very bad in colour, and we did not like the award. The second will perhaps make up well, but he appeared to us to be knock-kneed. In Partridge pullets the first was well pencilled; the second very dark, but charming in shape and fluff. *Brahmas*, Dark, made only a moderate display. The cockerels were certainly poor, the first decidedly the best, but loose in comb. In pullets the first was the bird we saw in the Malmesbury sale class, and she is still in the same owner's hands. In Light cockerels the first was large, and must have been early. In pullets the first is the best bird we have yet seen; she is good in colour and points, and above all has large size. The second was also good and clear in hackles; the third large, but not so distinct in the neck markings. In *Hamburghs* the first cockerel in Pencils went to a pretty Silver, while in pullets a very good Golden was first, and the second almost her equal. The first Silver-spangled had a very good tail, and was generally well marked. The Blacks were very good, and we fancy the chickens have been so far more glossy than usual. In *Malays* the first cockerel was large and in light feather, while in pullets we liked the winner immensely. She is a perfect bird for style, and will make, we think, a very large hen. In the *Spanish* we liked the second pullet best. She had more quality in face, and seemed a smarter bird. In *Houdans* a wonderfully good bird won the cup. He was the Alford first-prize bird, and is of a good dark colour, with a beautiful leaf comb. The first pullet was a little too white in crest for our taste. In *Crêves* the first-prize cockerel was very lustrous and fairly large, while the same exhibitor's first pullet was very big indeed, but of not so good colour as the second. *Silkie*s formed a pretty collection, and found many admiring spectators. The first pair contained a full-crested cockerel, but we fear when he is older his comb will be red, and that he will be too large. In the Ornamental class Sultans won first, and Gold Pheasants the other two prizes. Of course Sultans are ornamental, but so are Cochins, and so are hosts of other breeds, and we do not see Sultans had any right to be in the class. In the Variety cockerel class a very beautiful White-crested Poland won first, and a nice Golden second, while in the next class the two varieties, both very good specimens of their kinds, changed places. *Leghorns* were rather disappointing; the first Whites were forward and clean. In Browns the first cockerel was a good colour, and so was the second pullet. In *Game Bantams* the winner was a stylish bird with neat head, and in the variety Bantam class a

**Poultry.**—**SPANISH.—Black.—Cockerel**.—1, H. Beldon. 2, W. Wilkinson. 8, J. Walker. **Pullet**.—1, H. Winslow. 2, H. Beldon. 3, J. Walker. **GAMER.—Black Red.—Cockerel**.—J. Platt. 2, W. Jones. 3, P. Repwood. **Pullet**.—1, T. L. Lyon. 2, G. Young. 3, J. Platt. **Brown Red.—Cockerel**.—1, C. H. Wolf. 2, J. Platt. 3, J. Chesters. **Pullet**.—1, T. Dyson. 2, C. H. Wolf. *Any other Colour.—Cockerel*.—1, T. Dyson. **Pullet**.—1, T. P. Lyon. **DOKINGS.—Cockerel**.—Cup and 1, J. Slott. 2, J. Walker. **Pullet**.—1, J. Walker. 2, J. Stott. **COCKINS.—Cinnamon or Buff.—Cockerel**.—1, Mrs. A. Tindal. 2 and 8, G. Sigswick. **Pullet**.—1, Mrs. A. Tindal. 2 and 3, G. Sigswick. *Any other variety*.—1, Mrs. A. Tindal. 2, E. Percival. 3, G. Sigswick. **HINDS.—Henna Peetra.—Cockerel**.—1, E. P. Percival. 2, Mrs. A. Tindal. 3, G. Sigswick. **Pullet**.—1, E. P. Percival. 2, Mrs. A. Tindal. 3, G. Sigswick. **SILVER.—Cockerel**.—1, T. Pye. 2, E. P. Percival. 3, Mrs. A. Tindal. **HENBURGERS.—Golden-angled.—Cockerel**.—1 and 8, G. & J. Duckworth. 2, T. E. Jones. **Pullet**.—1 and 8, G. & J. Duckworth. 2, H. Beldon. *Silver-angled.—Cockerel*.—1, H. Beldon. 2, H. Pickles. **Pullet**.—1, H. Beldon. 2, H. Pickles. 3, J. Long. *Golden-pencilled.—Cockerel*.—1, G. & J. Duckworth. 2, H. Pickles. 3, J. Long. **Pullet**.—1, G. & J. Duckworth. 3, T. Edwards. 3, H. Beldon. *Silver-pencilled.—Cockerel*.—1, G. & J. Duckworth. 2, H. Pickles. 3, J. Long. **Pullet**.—1, G. & J. Duckworth. 2, H. Beldon. **CHICKENS.—Cuckoo.—Cockerel**.—1, I. L. Clayton. 2, J. Williams. 3, W. F. Upsher. **CHEV.—Cuckoo.—Cockerel**.—1, I. L. Clayton. 2, J. Williams. 3, W. F. Upsher. **CREW.—Cockerel**.—1, I. L. Clayton. 2, J. Williams. 3, W. F. Upsher. **POULTRY.—Cockerel**.—1, H. Beldon. 2, J. Williams. 3, W. F. Upsher. **GAME BANTAMS.—Black Red.—Cockerel**.—1, H. Beldon. 2, J. Williams. 3, W. F. Entwistle. *vhc.* W. F. Addie. **Pullet**.—1 and *vhc.* G. Hall. 2, W. F. Addie. 3, T. Putnam. **Brown Red.—Cockerel**.—1 and 8, W. F. Entwistle. 2, W. H. Robinson. **Pullet**.—1, W. F. Entwistle. 2, W. H. Robinson. 3, G. Hall. *Any other variety.—Cockerel*.—1, W. F. Entwistle. 2, W. H. Robinson. 3, G. Hall. **Pullet**.—1, W. Jones. 2, F. Steel. 3, S. H. Hall. **BANTAMS.—Cuckoo.—Cockerel**.—1, W. F. Entwistle. 2, W. H. Robinson. 3, H. Beldon. *Any except Game.—Chickens*.—1, J. Walker. 2, H. Dean. 3, J. W. Lloyd. *ANY OTHER VARIETY.—Chickens*.—1, J. Walker. 2, H. Dean. 3, J. W. Lloyd. **SELLING CLASS.—Chickens**.—1, N. Marlor. 2, R. Sidgwick. 3, J. W. Lloyd. **TURKEYS.—1, J. Walker. 2, W. Glassford. GEESSE.—1, J. Walker. 2, J. Stannah. GESE.—Grey.—1, J. Walker. 2, T. Mill. **Ducks.—Aylesbury**.—1 and 2, J. Walker. *Rouen*.—1 and 2, J. Walker. **PIGEONS.—CARREBS.—Cock**.—1, R. Fulton. 2, J. Walker. *vhc.* J. Gardner (2). H. Crosby. R. Fulton. **Hen**.—1 and 2, R. Fulton. Extra 2, J. Walker. J. Gardner. **POUTERS.—Cock or Hen**.—1 and 2, R. Fulton. Extra 2, J. Walker. **JACOBINS.—Black or Dun.—Cock or Hen**.—1, R. Fulton. Extra 2, J. Walker. **BARBS.—Black or Dun.—Cock or Hen**.—1, R. Fulton. Extra 2, J. Walker. **SHORT-FACED ALMOND.—Cock or Hen**.—1 and 2, R. Fulton. Extra 2, J. Walker. **TIMBERLS.—Short-faced Almond.—Cock**.—1 and 2, R. Fulton. Extra 2, J. Walker. **Long-faced Almond.—Cock or Hen**.—1 and 2, R. Fulton. Extra 2, J. Walker. **DRAGONS.—Blue or silver.—Cock or Hen**.—1, R. Fulton. 2, H. Crosby. *Any other colour.—Cock or Hen*.—1, R. Fulton. 2, R. W. Thwain. *vhc.* J. Gardner (2). **Owls.—English.—Cock or Hen**.—1, R. Fulton. 2, R. W. Townsend. *vhc.* J. Gardner. R. Fulton. **FOREIGN.—Cock or Hen**.—Cup, 1, and 2, R. Fulton. **JACOBINS.—Red or Yellow.—Cock or Hen**.—1 and 2, R. Fulton. *Any other colour.—Cock or Hen*.—1, R. Fulton. 2, H. Mangnall. **TURBITS.—Blue or Silver.—Cock or Hen**.—1, R. Fulton. 2 and *vhc.* H. Woods. *FAN TAILED.—Cock or Hen*.—1, R. Fulton. 2, H. C. Bowden. **ANTWERPS.—Short-faced.—Cock or Hen**.—1, R. Fulton. 2, W. F. Entwistle. *ANY OTHER VARIETY.—Cock or Hen*.—1, R. Fulton. *vhc.* D. M. Garside. J. Garoner. H. Crosby (2).**

**SELLING CLASSES.**—Single Birds.—Price not to exceed £3.—1, R. White. 2, H. Crosby. Price not to exceed 30s.—1, J. Brown. 2, R. White.  
**RABBITS.**—LOP-EARED.—Buck or Doe.—1, H. B. Smith. 2, T. & E. J. Fell. Angora.—1, P. Dingle. 2, T. & E. J. Fell. HINDRAX.—Buck or Doe.—1, J. G. Meadowcroft. 2, J. Wright. DUTCH.—Buck or Doe.—1, and 2, J. G. Meadowcroft. SILVER-GRAY.—Buck or Doe.—1, J. G. Meadowcroft. 2, T. & E. J. Fell. ANY OTHER VARIETY.—Buck or Doe.—1, H. & A. Pimlott. 2, J. Wright.

**JUDGES.**—Poultry: Mr. R. Teebay. Pigeons and Rabbits: Mr. T. Ridpath.

### PARASITES IN BIRD CAGES.

IN order to protect our Canary birds from the little red parasite various means are employed, principal among which is the Persian insect powder, although I have never found this article of much use. I have now discovered another excellent remedy, which, if rightly applied, banishes the insects forthwith. This is a tea made from quassia. It is made by pouring one pint of boiling water over one-half ounce of quassia. With this tea the walls of the cages, nesting places, roosts, &c., should be thoroughly washed, letting the liquid run into all the cracks, however small. If this is done often no insects will ever appear.—W. G. TODD.—(*Pet Stock Bulletin*.)

### FEEDING-UP RESCUED BEES.

A CORRESPONDENT writes as follows—"I have two heavy straw hives filled with worker combs by swarms of this year, and I wish to drive these bees, extract the honey, add the combs to a partially-filled frame hive, return the driven bees to their straw hives, and so feed them as to induce them to refill their dwelling with worker combs. Can I be certain of attaining this latter purpose at this time of year by gentle continuous feeding?" To this letter I purpose to append a few thoughts which have been floating in my mind for some days, which may be suggestive to many bee-keepers, as well as to our correspondent in particular, at this time of year.

First an answer to the direct question must be given in the negative. Bees will not confine their attention at this time of year to the building of worker combs so as to fill an empty hive with them, because, come what will, they never breed in autumn as they do in spring and summer time unless fed with great continuity and liberality. Gentle continuous feeding will induce the queen to breed moderately, and the bees will supply her wants with sufficient worker comb, and no more. If the supply of food be liberal they will lengthen out their cells all round the centre breeding nest and seal it up; if very liberally fed they will breed drone comb quite as often as worker comb, and treat it in the same manner.

If our correspondent would add in each case to the two hives he is anxious to feed-up one or more lots of bees saved from among the surrounding cottage apiaries, the increased population thereby gained would induce a larger building of worker comb, as the queen would find so much more opportunity for laying in the increased space that would be heated by the presence of so many more bees, for more comb would be covered by them; but with merely the returned population of his two hives but little brood could come to maturity now that the nights are longer and colder. Anyhow, let him be careful, by narrowed entrances and proper shelter and warm covering, to maintain as high a temperature as possible within the hives.

It is to be hoped that many bee-keepers will be induced to follow his example as to the plundering of the swarms of this year. Indeed, it is only swarms of the current year that are at any time worth taking up; and be it remembered that these always have the old queens, which in not a few cases are all but superannuated. Old hives, heavy as they weigh, contain at least as much brood and pollen and dirt as they do honey, and the latter must needs become deteriorated in value during the process of extraction from the more or less blackened combs. Two-thirds of waste must in most cases be allowed in calculating profits with old hives. I prefer to let such remain from year to year till the combs become too old and contracted for profitable use.

By all means "add the worker combs to a partially-filled frame hive." I have been doing this very thing last week to a swarm of this spring in a Woodbury hive, from which I had taken several beautiful combs filled with honey. The combs were taken from a common straw skep, cut to shape and fitted into the frames with a few cross pieces of thin lath tacked over the comb to the frame sides. These will be removed in due time. For all Mr. Pettigrew's deprecatory observations touching these bar-frame hives, nobody who has given them a fair trial and has used them efficiently will be found to give them up, so easy is it to examine every comb and to adjust the combs to the wants of the hive and the aims of the bee-master. They are simplicity itself, and give the most perfect command of the apiary to an intelligent person. My Woodburies have narrow strips of wood, unfastened instead of secured top-boards. By removing these one after the other, only so much of the hive is exposed to view as is to be dealt with. A few whiffs of smoke

dislodge or quiet the exposed bees, which, however, are generally too astonished at the sudden invasion of light to move at all in any irritated manner. To remove a comb when properly made or adjusted within the frame is an easy matter, so also is it to replace it.

I cannot conclude without asking our correspondent why he does not make up all his hives as bar-frame hives, and give his bees to them instead of returning them to his straw skeps. There are plenty of valuable empty worker combs to be had for the asking among country bee-keepers. The adjustment of these in bar-frame hives would be far more profitable and satisfactory in every way than trying to fill his straw hives this autumn.—B. & W.

### COMPLETING UNFINISHED SUPERS.

YOUR correspondent "O. B.'s" remarks in page 225 have the direct tendency to mislead the young bee-keeper, the very thing he sets forth to avoid.

I am not aware that the common practice in large apiaries of transferring an uncompleted super from a newly swarmed to an unswarmed stock has as yet been called in question, and the bee-keeper would be young indeed who did not see the propriety of adopting it.

Your correspondent's stipulation of the transfer taking place "during the honey harvest" is beside the mark, as Mr. Pettigrew distinctly recommends, at page 19, his artificial super manufacture to be begun "at the end of the season."

Of administering feeding for the completion of supers at either period, my experience is simply nil; but the novice might be reminded that, however readily bees may step into the labours of their predecessors and complete the work in their unbroken combs during the honey flow at the end of the season when thieving is rife, the odour and leakage inseparable from the all-round-bleeding borders of each comb proposed to be inserted into the artificial supers, the robbers, "scenting the carrion from afar," would most probably vie with the inmates of the hive on which they were placed to appropriate the treasure trove. At all events I do think Mr. Hunter's detailed experience is more in keeping with the common practice of bees than Mr. Pettigrew's questionable theory.

In my remarks in last week's issue on "The Stewarton Hive and System," my strongest colony stocked with first cross Italians, by a typographical error is converted into "first-class" Italians.—A RENFREWSHIRE BEE-KEEPER.

### DO BEES GATHER HONEY OR MAKE IT?

PROF. RILEY, the entomologist, at a recent housekeepers' convention in St. Louis, stated that bees do not extract honey ready made from flowers, but make it. The nectar lying in the flowers, says the Professor, could never be manufactured into honey, no matter how manipulated by man; but it is taken up by the bees and passed through a state of semi-digestion and excretion, resulting in honey, yet still retaining in part the flavour or perfume of the flowers from which the nectar has been extracted, by which we determine one kind of honey from another. This view has since been corroborated by a chemist and botanist of Louisiana, who described the changes undergone by nectar in its elaboration into honey in the bee's stomach. At the same meeting Prof. Riley intimated in reply to the query, Do bees injure fruit? that they do, but only in seasons of severe drought and when urged by necessity. The fact, however, is no derogation to the usefulness of the insect, for its utility as a polleniser more than counterbalances all its depredations upon fruit.

### DUNDEE BEE AND HONEY EXHIBITION.

FOLLOWING the example of the Manchester Great Show in 1872, the Dundee authorities held a show of honey in connection with their horticultural exhibition on the 7th, 8th, and 9th inst. The Exhibition was held under the auspices of the East of Scotland Bee-keepers' Society, and it occupied one corner of the large Artillery Hall. In all there were 140 lots shown. For the largest and best harvest of super honey the produce of one hive this season, Mr. William Raitt, Liff, Secretary to the Society, carried off the first prize. The supers were five in number and weighed 103 lbs. of fine clean honey. The observatory hives, within which a swarm of Ligurian bees and their queen were to be seen, were objects of great interest to the many visitors which frequented this part of the Show. A great many specimens of bar-frames were filled with comb honey, and these with run honey in glass jars, and different forms of wax, constituted the exhibition. Subjoined is the prize list:—

Largest and Best Harvest of Super Honey, the produce of one hive.—1, W. Raitt, Liff, 103½ lbs.; 2, Robert Cowan, Brechin, 74½ lbs.; 3, John Lorrimer, Broughty Ferry, 59 lbs.  
 Heaviest and Best Single Super, the produce of one Hive.—1, E. Steele, Fowles, 49½ lbs.; 2, Mrs. Dick, Kerriemuir, 41 lbs.; 3, D. Robertson, Fettercairn.  
 Best Super in Wood, or Wood and Glass.—1, James Glen, Arbroath; 2, W. Raitt, Liff; 3, J. Strachan, Farnell.



Best Sectional Super over 2 lbs., Combs separable, and not exceeding 4 lbs. each.—1, W. Raitt, Liff; 2, D. Ramsay, Biddovie; 3, J. Stewart, Arbroath.  
Best Super in Glass.—1, W. Raitt, Liff; 2, A. Watson, Milnathort; 3, G. Paton, American Muir.  
Best Super in Straw.—1, A. Watson; 2, T. Waters, Milnathort; 3, J. Alexander, Morgan Hospital.  
Best Two Combs in Bar Frames.—1, A. Watson; 2, J. Davie, Waukmills, Arbroath.  
Heaviest and Best Skep; must be free from brood, and obtained without destroying the Bees.—1, J. Christie, Waukmills, Arbroath; 2, R. M'Gregor, Inchmarlo.  
Six lbs. of Run Honey in Show Glass.—1, Mrs. Stuart, Letham Mill, Arbroath; 2, T. Waters; 3, R. M'Gregor.  
Two lbs. Wax.—1, W. Raitt, Liff; 2, J. White, Falkland; 3, J. Cannison.  
Messrs. Scrymgeour's Prize.—1, J. Stewart.  
Bar-frame Hive complete, with Floor-board, Super, and Roof, price not over 20s.—1, C. N. Abbott, Hanwell, London; 2, R. Steele, Fowls.  
Cheapest Bar-frame Hive, suitable for Cottagers, with Floor-board and Roof.—1, R. Steele; 2, C. N. Abbott.  
Best and Neatest Observatory or Unicorn Hive, to be exhibited stocked with Bees.—1, J. Lorrimer, West Port, Dundee; 2, W. Urquhart, Rosebay, Broughty Ferry.  
The most beautiful Ligurian Bees, to be exhibited with their Queen in Glass Hive.—Equal, J. Lorrimer and W. Raitt.  
A Certificate of Merit was awarded by the Judges to E. Bailey, The Pillars, Dundee, for an excellent collection of Honey Exhibits.  
The Judges were Mr. C. N. Abbott, Hanwell, London; and Mr. W. Duke, Newbarns, Kerriemuir.

An apianar of Maryland has secured a beautifully marked breed of bees which he names the Albino. The markings are these:—Beautiful yellow bands; from the bands to the end of the bee is quite white, or a bright silver colour; heads dark velvet colour, differing from the Italian.—(*Rural New Yorker.*)

OUR LETTER BOX.

HENS CEASING LAYING (*Subscriber*).—Hens are now giving up laying and are in moult. At that season the comb shrivels and often turns black. The appearance may, however, be caused by something the birds have picked up. You do not state the nature of their run. If they have their liberty with grass, and the different foods; and medicines they find in it, then we cannot advise you; but if they are in confinement you will do well to give them lettuce, especially if it has gone to seed, also grass and soil fresh dug and piled in a heap in their run. We should have liked to know their food. If you can get ground oats feed on them, slack'd morning and evening; give whole corn or kitchen and table scraps for the mid-day meal.

INDIAN RUNNER DUCK (*F. G. S. R.*).—We do not know the Duck you name; at least, not by the name you give it.

FOWLS FOR WINTER LAYING (*Old Subscriber*).—It is not the property of any particular breed to lay in the winter. It may be said, as a rule, that hens never do so lay. Pullets always do if they are of the proper age. Different breeds lay at different ages; thus Cochins and Brahmas lay before Dorkings and Spanish. Cochins and Brahmas are among the earliest layers. We expect them to lay at five months old; we have known them to begin earlier. They lay well, but become broody. Dorkings are good layers; they, however, want rather a larger run than you seem to have. The non-sitters are Spanish, Houdans, Crève-Cœurs, and Hamburgs. These seldom lay till they are six months old. The Spanish and Crève-Cœurs lay the largest eggs. You require eggs during six months, you must therefore have pullets of different ages, as you cannot expect to have birds laying through that period of time. We should be disposed to have Crève-Cœurs. You would want them five and six months old in October, and if they are wanted to lay at that time they should be on their walk at least a month previously. They require at that time of the year to be well fed, and will not lay regularly unless they are. Where it is wished to make the production of eggs a certainty during the winter months attention must be paid to the feeding. When snow is on the ground fowls should be fed from some vessel, as nothing tends to disturb the health of fowls more than to eat snow. For this reason it is well to sweep a place where the trough may stand. They can then pick up the scattered pieces without injury. They must be fed regularly.

BLACK SPANISH AT WYMOUTH SHOW.—Mrs. Allsopp writes to say that the cock in her pen of Spanish which were not noticed in the prize list had not his comb cut.

FOWLS FOR TABLE USE (*G. H.*).—Taken as table fowls, and compared one with the other, the Houdan would rank before the Brahma. It would, therefore, be better to use the Brahma cock and the Houdan hens. It is not, however, a judicious cross, as the Houdans are non-sitters. Dorking hens would make a much better cross. The last time we saw well-filled "Redcap" classes was many years ago at a show held in Sheffield. They were purely fancy birds, in no wise superior to other and better known breeds.

SEBRIGHT BANTAMS (*L. V. A.*).—The Sebright Bantam is a composite bird, and for this reason will sometimes throw back to its forefathers, many of which were single-combed birds. Many good breeders of these run them together and breed both colours. We have done it ourselves; the result has been to make the silver creamy in colour instead of dead white. As it is very necessary to introduce fresh blood continually, we recommend you to make your walk next year of the silver cock, two of the palest of his daughters, and two fresh silver hens. You should take care of the cock, as many of this breed are not stock-getters.

SUNFLOWER SEED (*H. J. B.*).—Extract the seed when ripe and scatter it before the fowls.

DEPRIVING BEES OF THEIR HONEY (*B. S.*).—You will succeed next time, and need no more information as to driving bees. After well smoking the bees carry the hive further from the stand—as far as you like—and there drive them. If the cloth is properly rolled round the junction of the top and bottom hives not a bee will molest you. Drum constantly for twenty minutes, and you will then find almost all the bees in the top hive. Kill all that remain with powder or sulphur. You will thus safely get the honey and save the bees. One successful effort by yourself will make you quite master of the work of driving. All you seem to lack are courage and confidence.

WINTERING BEES IN GLASS SHADE (*T. White*).—It is possible to winter bees in your large glass shade, 18 by 16 inches. The bees in it now have

either been a very late or small swarm, for according to your account they have built one comb only down one side. You should put a wooden ladder from bottom to top in the centre of the shade. Put (unite) another to those already at work, and give them 20 lbs. of good sugar syrup, from which they will build several combs for honey and brood. Please to remember that unless the bees hatch several combs of brood in autumn they will die off in winter or in early spring. Your glass shade makes a handsome crystal palace for bees, and the satisfaction of having wintered bees in it will be an ample reward for the special attention now necessary. Keep the palace well covered at all times.

BEE-KEEPING (*Phonetic*).—Apply to Neighbour & Co., Regent Street, London, for Payne's improved cottage hive. Your better way will be to purchase a hive of bees, either now or in spring, rather than a swarm. If you buy one now it should have food enough in it to keep the bees all winter. Write to Mr. Jas Hale, Kedington, Haverhill, Suffolk, or to Mr. A. Pettigrew, Sale, Cheshire.

PRESERVING KIDNEY BEANS (*F. A.*).—We have known them kept quite fresh until March, and in one or two instances until beans came in again. The process was simply gathering the pods when of a size fit for use, on a dry day, and during dry weather if possible. A thin layer was then placed at the bottom of a stone jar, then a thin layer of fine salt so as to cover them, and on this a layer of beans, then salt, and so on until the jar was full. We cannot say how much salt was used, but we think that it was equal to one-fourth of the bulk of the beans.

INDIAN CORN COOKING.—"S. V. B. D." wishes for a recipe.

METEOROLOGICAL OBSERVATIONS.

CANDON SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				Rain.
	Baromet. ter at 49° and Sea level.	Hygrome- ter.	Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.	Radiation Temperature.	In sun.	On grass	
1876.		Dry. Wet.			Max. Min.	deg. deg.	deg. deg.	In.	
Sept.									
We. 6	29.509	61.2 61.8	S.W.	67.3	63.9 57.7	118.5 58.1	115.6 50.8	0.130	0.055
Th. 7	29.534	57.3 61.5	S.W.	67.1	68.2 58.7	115.6 50.8	115.6 50.8	0.130	0.055
Fri. 8	29.685	56.3 52.3	S.W.	59.0	62.8 47.7	111.7 45.3	109.8 41.1	0.090	0.050
Sat. 9	29.767	52.9 51.1	S.W.	57.1	61.4 44.7	112.2 44.4	112.2 44.4	0.050	0.050
Sun. 10	29.771	56.8 53.9	N.W.	56.7	61.4 46.1	112.2 44.4	112.2 44.4	0.050	0.050
Mo. 11	29.833	55.0 49.2	W.	56.0	59.5 44.2	117.6 38.1	117.6 38.1	—	—
Tu. 12	29.874	5.3 48.7	N.W.	55.3	59.6 45.6	104.7 49.1	104.7 49.1	—	—
Means.	29.736	53.1 52.8		57.8	63.8 48.5	110.2 44.1	110.2 44.1	1.875	

REMARKS.

6th.—Very wet night and morning, but a very pleasant day afterwards.  
7th.—Fine early, but rain soon after 9 A.M.; showery day; distant thunder between 1 and 3 P.M.; fine night.  
8th.—A fine fresh (but for the time of the year) cold day.  
9th.—Fair early, but rain before 8 A.M.; a showery day, the rain at times heavy and the sun at times very bright.  
10th.—Fine morning; dull forenoon; fine afternoon and evening, and starlit night.  
11th.—Fair but showery-looking all day; fine night.  
12th.—Rainy morning, but fine soon after 10 A.M., and so continuing all day.  
A very pleasant day.  
Mean temperature about 2° lower than during the previous week. Rain very frequent.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 13.

THE market continues thinly supplied with nearly all classes of goods with the exception of Apples, there being a larger quantity arriving than was anticipated, but prices remain much the same, business being generally very quiet.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	6 to 5	0	Nectarines.....	dozen 3 to 13 0
Apricots.....	dozen 0	0	0	Oranges.....	dozen 10 0 24 0
Cherries.....	lb. 0	0	0	Peaches.....	dozen 3 0 13 0
Chestnuts.....	bushel 0	0	0	Pears, kitchen.....	dozen 0 0 0
Currants.....	dozen 0	0	0	Pears, dessert.....	dozen 1 6 3 0
Black.....	do. 0	0	0	Pine Apples.....	lb. 2 0 6 0
Pigs.....	do. 1	0	0	Plums.....	dozen 7 6 10 0
Pilberts.....	lb. 6	0	0	Quinces.....	bushel 0 0 0
Gooseberries.....	quart 0	0	0	Raspberries.....	lb. 0 0 0
Grapes, hothouse.....	lb. 6	0	0	Strawberries.....	lb. 0 0 0
Lemons.....	do. 12	0	18	Walnuts.....	bushel 0 0 0
Melons.....	each 2	0	5	ditto.....	do. 100 0 0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen 4	0	0	Leeks.....	bunch 0 4 to 0 0
Asparagus.....	do. 100	0	0	Mushrooms.....	pottle 2 0 2 0
French.....	bundle 0	0	0	Mustard & Cress.....	punnet 0 2 0
Beans, Kidney.....	do. 10	0	0	Onions.....	bushel 2 0 5 0
Beet, Red.....	dozen 1	6	8	pickling.....	quart 0 4 0 6
Broccoli.....	dozen 0	9	1	Parsley.....	doz. bunches 2 0 4 0
Broccoli Sprouts.....	dozen 0	0	0	Paranips.....	dozen 0 0 0
Cabbage.....	dozen 1	0	2	Pears.....	quart 0 9 1 6
Carrots.....	bunch 0	4	0	Potatoes.....	bushel 0 3 0
Capicams.....	do. 100	1	6	Kidney.....	do. 3 0 8 0
Cauliflower.....	dozen 1	0	4	Radishes.....	doz. bunches 1 0 1 6
Celery.....	bundle 1	6	2	Ranbarb.....	bundle 0 9 0 9
Coleworts.....	doz. bunches 2	0	4	Salsafy.....	bundle 0 9 1 0
Cumbers.....	each 2	0	9	Scorzoneria.....	bundle 1 0 0 0
Endive.....	dozen 1	0	2	Seakale.....	basket 0 0 0
Fennel.....	bunch 0	9	0	Shallots.....	lb. 0 3 0
Garlic.....	lb. 0	6	0	Spinach.....	bushel 1 6 2 6
Herbs.....	bunch 0	8	0	Tomatoes.....	dozen 4 0 5 0
Horseradish.....	bundle 4	0	0	Turnips.....	bunch 0 4 0 6
Lettuce.....	dozen 0	6	2	Vegetable Marrows.....	do. 2 0 3
French Cabbage.....	do. 0	0	0		

## WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 21—27, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
21	TH	Crystal Palace Show opens.	66.4	45.6	56.0	5 47	5 59	10 23	6 50	4	7 9	265
22	F		66.4	44.7	55.6	5 48	5 56	11 43	7 12	5	7 30	266
23	S		66.8	45.7	55.9	5 50	5 54	0 57	7 42	6	7 51	267
24	SUN	15 SUNDAY AFTER TRINITY.	66.1	43.5	54.8	5 52	5 52	2 4	8 24	7	8 12	268
25	M	ST. CYPRIAN.	65.8	43.1	54.4	5 53	5 50	2 56	9 19	8	8 32	269
26	TU		65.7	43.8	54.7	5 55	5 47	3 35	10 25	9	8 52	270
27	W		65.3	44.6	55.0	5 57	5 45	4 2	11 38	10	9 12	271

From observations taken near London during forty-three years, the average day temperature of the week is 66.0°; and its night temperature 44.8°.

## ROSES IN AN EXPOSED SITUATION.



ROSES in beds or borders are very ornamental; they are also the most esteemed of cut flowers. National indeed is the Rose, for it is everybody's flower, and its enjoyment is not restricted by its costliness of production. Brawny hands, hardened by toil in factory, workshop, mine, or other occupation, prompted by the mind of their possessors who, residing in street or alley without a yard of ground to cultivate, and employ their leisure hours pleasantly and profitably, pluck, when opportunity offers, the Rose of the wilderness—the Dog Rose, proud to possess in the button-hole so primitive a representative of the national emblem, prizing the “blushing bud” as highly as the most enthusiastic rosarian its most improved and noblest flower.

Though we should hail a legislative enactment prohibiting houses in towns without frontal gardens, and houses in rural districts without garden ground adjoining sufficient to produce a supply of vegetable diet, to say nothing of fruit and flowers, fostering as they do home tastes, and affording healthy employment and profitable relaxation, yet we cannot but look upon the apologies for lawns in towns and the providing of large garden plots for those who must labour almost from daylight until dark as other than mistakes; the former is a misappropriation, and the latter converts relaxation into labour. Moderate-sized gardens have a much better chance of being well kept and profitably cultivated than large gardens; and if larger plots are needed to supply the requirements of any, their wants will be better met by allotments.

But what has that to do with Roses in exposed situations? Much; for no exposure is so draughty and trying as that of street gardens. The winds sweep up them, and by being direct in their course form eddies or whirls that batter or twist everything in the way of vegetation. It is hard to tell whether smoke, dust, confined space, or wind are the greatest hindrances to gardening in towns. Walls are all very well as shelter, but unless they are clothed with verdure are very unsightly, and do not “sift” the wind as a “living” wall—a hedge of some kind. Beech may be named as forming a good wind-screen, and it does fairly in towns. Hornbeam, however, does better, and better still Thorn. Those are, of course, deciduous. Ivy will cover a wall or any fence, only train it up, and Clematises appearing upon its surface are simply charming. The best of all shrubs for standing smoke are Rhododendrons, and where the soil is unfavourable to their growth Aucubas may be planted, but they are not nearly so satisfactory as Rhododendrons. In a fairly sheltered town garden Roses may be grown tolerably well, selection being made of the vigorous hardy-constitutioned kinds. It is more easy, certainly, to grow Roses in an exposed situation in the country than in a town garden. I find, however, that in town or country the cultivator must be prepared for “cross currents”—

the wind does not always blow straight—success in most instances being alloyed with failure. I have grown Roses in smoke at a similar altitude for about the same length of time that I have striven to grow them in an exposed situation in the country with results that can only be set down as a mixture of failure and success. I have looked around me, and I find it is much the same in the case of others under similar circumstances.

I was told the other day that my Roses looked as if they wanted “more shelter. Why not give them it—a hedge of Yew or similar wind-screen?” We are seeking to afford the requisite shelter, not to anything in particular, but to everything in general, by planting groups of trees and shrubs, mostly evergreen, and these are disposed in the natural or picturesque style, all the lines being curves and all the figures irregular. To introduce a hedge with either curved or straight outline would be to make a penfold quite out of harmony with the surroundings. Instead, therefore, of forming fields by enclosing an open space with a hedge I have introduced groups of Roses to harmonise with the irregularity of the groups of trees and evergreens. So far as groups of shrubs can afford shelter to associated groups of Roses it is given, but this is of a different character to that afforded by a continuous line or hedge. Our exposure is to the west and north-west; the winds from those quarters sweep over mile after mile of moor, aglow now (early September) with the rosy-purple blooms of Ling (*Calluna vulgaris*); whilst from south-east to north-east the winds reach us after lashing the North Sea into foam as merciless and unrelenting in their attacks as the Norsemen of old, and far more fleet, scaling our height of over 500 feet with an impetuosity that tries severely the resistance of the obstacle opposed to their course.

As might be expected standard Roses are not suited for such a situation; they do not look well, and, what is of more consequence, do not thrive. Standards may do in sheltered situations in soils that suit the Briar, but in a cold exposed situation they are unsatisfactory and expensive to maintain. Rose bushes on tall stems may have originated in the idea of having the flowers produced on a level with the eye, so that the fragrance of the flowers may be inhaled without stooping. A Rose to be seen in all its glory does not want to be on a level with the eye, but beneath it; its fragrance if not worth stooping for is not worth having. Standard Roses in little circles on lawns are inappropriate—a fritting away of the beauty of a lawn and making it appear smaller than it really is. It would contribute immensely to the effect were scattered Rose bushes collected into a bed or border, where they would also be more enjoyable from the advantages of admitting comparison by the varieties being adjudicated upon in juxtaposition, instead of inferential derivations being drawn from isolated subjects.

Notwithstanding the effectiveness of Roses in the mass as compared with solitary specimens they must be of one variety in each mass; for the pinks, roses, crimson, reds, whites, and yellows vary so much in tint and are so dissimilar in habit that when an attempt is made at assorting

them into groups of pink, &c., in variety the result ends in incongruity. These remarks must be taken as not applying to lines of one kind in borders, or beds of one kind in a bed; the effect of these will be equal to that of any other mode, but the varieties in such arrangements must be few and distinct.

Roses must also be tastefully grouped in rooms. It has been said they never look so well as in heaps. I doubt it. A number of insignificant blooms in quantity may hide their defects; but singly every quality of the blooms is presented. In the heap any quantity will pass muster. A few good blooms interspersed make gorgeous an otherwise very indifferent lot; whereas in singles nothing short of good blooms are available. The former plan is the easiest, and if any doubt exist upon this head take a vase that will hold, say, three dozen blooms, and have the same number of small glasses somewhat larger than a penny ink-bottle, each to be filled with a specimen Rose, and you may find, as I have, what an easy matter it is to fill the vase, and what a difficulty there is in finding three dozen specimen blooms every other day of a creditable character.

A word as to garden *versus* exhibition Roses. I find all really good garden Roses are those appearing in the winning stands at shows, with the exception of a few of doubtful hardiness, and some that require walls. A Rose is not fit for a garden unless suited for exhibition. There are as good hardy Roses as those of doubtful constitutions; but some have a mania for everything that is tender, and requires a wall or glass to grow it, not for its merits but on account of the greater difficulty of production. This is also encouraged by judges, who often countenance rarity instead of quality.

The Briar here in the open presents a stunted growth. It is only when sheltered that it draws up long enough to form a stem. These stocks are planted thickly for trade purposes, the stems not being subjected to the drying influences of the atmosphere until given the cultivator's distance. By exposure to sun the stem may dry before the head is of a size to protect it, the stem in its habitat being protected by its own or surrounding growth, and this exposure of stem may account for the many deaths resulting, not so much of the Roses as of the Briars. It is not solely due to the tenderness of the Rose, though that in a severe weather may be a sufficient cause of loss, but the sap for some untold reason refuses to ascend the stock, as is evidenced by want of growth on the stems; and the presence after its death of numerous suckers springing from the roots is proof conclusive that nature, distorted as it may be, will in the long-run assert its supremacy. The only Roses which the Briar appears to suit are the vigorous spreading growers; but neither as dwarfs, quarter, half, or full standards does the Briar answer with me as a stock, standards of any height not being suitable for any exposed situation. I must, however, in justice to the Briar say that a few dozen plants alleged to be on Manetti, but which were on Briar roots, which had been cut into lengths of 3 or 4 inches and worked, and planted so that the junctions were covered at least 3 inches with soil, have done well. They, however, send up suckers, it being the nature of the Briar to put out strong young growths from the roots annually.

The plants for an exposed position are dwarfs. Upon their own roots only a few of the most vigorous succeed, and these do not give blooms equalling those afforded by the Manetti, which are planted so that the junction is 3 inches beneath the surface, it being remarkable what a few plants root from that part of the scion which is buried, and what few suckers are produced. The ground for them was trenched two spits deep; the subsoil being unfavourable and full of oxide of iron, it was not thought desirable to bring more up. The soil is of a semi-peaty description, admirably suited to American plants, and naturally grows Heather in three species—Whins where dry, and a few Bilberries, and, where wet, Sedges. Poor stuff! In trenching the turf went to the bottom, and upon this was given a coating of farmyard manure 6 inches thick in its fresh state, and then the bottom spit was brought to the top, a like dressing of manure being placed on the top and mixed with the top spit. Spring had come in before planting could be done, and I cut hard back at the close of April, the Roses having begun to grow. I like to have the shoots start from near the ground, below it when possible. They grew away finely, but the hares soon found out the daintiness of the tender shoots, and ate them off to very near their origin. Wire netting had to be brought into requisition, the plants having scarcely a leaf on them at Whitsuntide. It was clear the hares had only caused more shoots to come in place of

those removed, and we had lots of Roses in late summer and autumn.

In December the soil was mulched, or rather covered up with litter. I had anticipated the appearance of the litter would have prompted an order to take it away, and the Roses also if they would not do without it; but whether the perfume of the Roses had been so enduring as to prevent any odour arising from the litter, or their colour still filling the eye so as to hide the unsightliness of the straw I am not in a position to state, but the order did not come, and I have gone to the extent of summer mulching, which has not been taken objection to. Had I had my own way I certainly should have gone to the extent of a rosery—hid the noblest of flowers behind a hedge; but the fact was, they as shrubs must take their position as such or not at all. It is only just to say that they attract much attention and elicit great admiration. I mention this as an encouragement to others similarly circumstanced—not to let a difficulty, often imaginary, stand in the way, for though the result may not equal others more favourably circumstanced, every effort is attended with more or less of success, generally measured by the enthusiasm of the cultivator for the subject which he labours to perfect.

The roughest of the winter covering is removed in early spring, and comes in admirably for mixing with fresher hotbed material, and the short is pointed-in after pruning, which has often been done too early, as when done in February and early in March the shoots have not unfrequently been much damaged by frost in April, and I do not now prune until the early part of that month if the season be forward, and not until the middle or end if the season be late, the growths upon the shoots being often considerable before pruning is done. By late pruning damage is escaped from spring frosts, and the bloom though later is certainly finer. The plants are gone over occasionally through the summer, removing any past flower trusses, and cutting-back any long non-flowering shoots to the height of the plants generally, and these not unfrequently afford shoots giving bloom without interfering with the buds at the base of the shoots. In the matter of pruning, the weak and old shoots are cut clean away, the endeavour being to originate strong vigorous shoots. The pruning is also close—each strong shoot being cut to three or four eyes, and the moderately vigorous to two or three.

All that the plants are allowed beyond the covering-up in winter is in a dry summer a mulching of short litter after the first moist weather in June, weeds being kept under, and if no mulching be given—which is not always the case, the weather being moist and the growth free—the surface is kept from cracking by stirring the surface. No watering is given overhead or to the roots. There is no aphid and no mildew. We commenced with many kinds, but each year has considerably reduced their number; their place has been taken by such as succeeded, and which were free in growth and flower, and have proved suitable for an exposed situation. I have placed those following in the order of merit.

*Hybrid Perpetual*.—John Hopper, Baroness de Rothschild, Alfred Colomb, Charles Lefebvre, Sénateur Vaisse, Capitaine Christy, Edward Morren, Madame Victor Verdier, Dupuy-Jamain, Thyra Hammerick, Countess of Oxford, La France, Madame Clert, Paul Neron, Prince Paul Demidoff, Duke of Edinburgh, Antoine Ducher, Madame Lacharme, Thomas Methven, Comtesse de Chabillant, Prince Camille de Rohan, Maréchal Vaillant, Claude Levet, Pierre Seletzki, and Olga Marx, small but a finely-formed flower.

*Perpetual Moss*.—Madame Moreau and Salet.

*Bourbon*.—Louis Margottin, Sir Joseph Paxton, and Baron Gonella.

*China*.—Cramoisie Supérieure and Mrs. Bosanquet.

*Tea-scented*.—Gloire de Dijon—this and the first twelve are much the best; Gloire de Bordeaux.

*Noisette*.—Rêve d'Or, magnificent foliage, but blooms sparingly, but well worth a place where leaves are in request.

There are, of course, many others that are vigorous growers, but the flowers do not open, notably Perle des Blanchés and Princess Christian, Perfection de Lyon being most refractory in that respect.—G. ABBEY.

## PEACHES IN ORCHARD HOUSES.

THESE are now so plentiful that anything relating to them interests many. On p. 245, in reply to "READER," some observations are made on the comparative flavour of fruit under glass and on the open wall. I believe it depends on the season, but

in no season have I ever tasted a Noblesse Peach grown under glass equal to one ripened in a fine season on the open wall. Peaches in pots require, no doubt, constant attention as to water, and any error here may deteriorate the fruit; but I believe the real cause of inferiority is the difficulty with which the actinic (not the luminous) rays of light pass through glass. The fact of such inferiority was noticed by Andrew Knight, and he constructed a Peach house expressly to allow two sets of trees to receive in their turn the direct rays of the sun without the intervention of glass. In his case the trees were planted out.

In the answer above referred to manure water is not recommended. I find rotten hay a good covering for the surface, and the roots seem to like it much. This is refreshed with weak liquid manure, which is discontinued as soon as the fruit is fully swollen. If used with moderation it seems useful.

Why are bones prohibited? If fresh they are of course objectionable, but when decayed and in a porous condition roots penetrate them readily. They seem beneficial both mechanically and chemically.—G. S.

### BEDDING-OUT PLANTS.

I AM almost entirely in accord with the article on bedding-out plants which was extracted from "The Gardener," and appeared on page 217 of the *Journal of Horticulture*. There is no reason why, when there is room and a proper situation, that persons should not grow more herbaceous and perennial plants; but each year more and more convinces me of the difficulty of keeping beds of perennials tidy and gay for any length of time, and that it would not do to have mixed perennial borders, instead of bedded-out plants, in any formal garden close to a house where it is to be daily seen from the windows. There is no reason why choice half-hardy plants should be anyway inferior to choice perennials, and there can be no doubt that those plants which have been generally selected for bedding purposes are more lasting and give more continuance of bloom than almost any other kind of plants. If persons are content to see constantly under their windows or on their parterres (a word which, by the way, I hate—why not say gardens or lawns?) a geometrical bedded-out garden cut out of coloured foliage, presenting day by day the same features, except when it may have been newly cut or clipped, then of course there is no necessity for flowering plants, and both perennials and half-hardy flowering plants may go to the wall. I have no fear, however, that lovers of flowers will long be content with the sort of thing I saw in front of a ducal mansion in the south of England—a dead flat without a flower, and a badly laid-out carpet of Sedums, Alternantheras, *et id genus omne*. English people are essentially lovers of flowers, and while foliage may help to diversify and adorn, foliaged plants will not for long be allowed to cover the whole of a bedded garden.

Neither, again, do I see the wisdom of growing every kind of perennial, be it high or be it low, be it alpine or be it herbaceous, merely because it is a perennial and hardy. No doubt many of our most beautiful plants, as Phloxes and Delphiniums, Sweet Williams, &c., are perennials; no flowers, perhaps, when massed produced finer effects in the distance than Phloxes and Foxgloves and Antirrhinums; but then, with some few exceptions, their season is but short, and something must be put to supply their place, or else there is a blank. If we try to make a perennial border with low-growing flowers in front it will be found that nearly, if not all, are spring plants, as Arabis, Aubrietia, Myosotis, Auriculas, Polyanthus, Anemone, Pansies, &c., and if the front of the border is gay with them in May and June, what is to supply their places in July and August, unless annuals are pricked-in amongst them to the detriment of the other plants another year? Again, if the back row is gay with Sweet Williams and Snapdragon in July, what is to supply their place in August should the summer be dry? Phloxes seem to me among the most valuable of perennials, to say nothing of Gladioli, Liliums, &c., but under no circumstances does it appear to me that a mixed perennial border can supply the place of a bedded-out garden, where flowers as flowers strictly predominate. If proper care is taken in the selection of sorts and arrangement of colours there need be no undue glare or formality.

The mistake too often made is to substitute quantity for quality, or to repeat over and over again the same Geranium, or same Calceolaria or Lobelia, simply because it seems to thrive or propagate easily. I have, for instance, on a sloping bank in my garden twenty beds of Geraniums, ten of which

are pinks and ten scarlets. Many persons would have repeated the same pink—say, perhaps, Christine, and the same scarlet, perhaps Vesuvius, for the whole of the twenty beds. I have carefully avoided having two alike. I have selected ten pinks, five of them with a lilac tinge, and five of a true pink in different shades, and ten scarlets, five of which are crimson in tone and five vermilion; but there are sufficient diversities in the tones and habit of growth, size of truss, colour of foliage, &c., to help to prevent monotony and to add to the interest, not merely by comparing the different varieties, but also by blending the shades of colour. Again, I find by experience that large trusses are far more effective than small, even though there may be three times the number of smaller trusses, and that those that throw-up a quantity of small trusses as Vesuvius, never last. Others, again, like Jean Sisley, will not stand sun or drought.

I have the following beds in the bank this year:—Mrs. Fytche, John Gibbons, Florence Durand, Rev. J. F. Atkinson, Mrs. Holden, Bayard, Amaranth, Star of Fire, Mrs. Augusta Miles, Le Grand, Mrs. Lowe, Mrs. Whiteley, Mrs. Musters, Sir J. Outram, Contessa Quarto, Vesta, Amaranth No. 2, Corsair, Rose Rendatler, and Mrs. Vincent. This is the order in which they are planted. Amongst these John Gibbons, Rev. J. F. Atkinson, and Mrs. Whiteley are new varieties of Mr. Pearson's; the first two of strong growth with enormous trusses and large individual flowers, one a true scarlet the other a crimson, and both very effective. Mrs. Whiteley is rather like Jean Sisley but a better flower, and does not drop its petals in the sun. Most of the others will be known to many of your readers. Among the scarlets Star of Fire and Corsair still keep-up their character; and among the crimsons Bayard and Sir James Outram. There is no light pink which has yet with me surpassed Mrs. Lowe; and among deep pinks Mrs. Fytche, Mrs. Holden, and Augusta Miles are particularly fine. Florence Durand always does well towards the latter end of the season, but Amaranth is invariably good among the lilac shades, and equally good is Mrs. Musters. Another lilac which I have bedded this year for the first time is Mrs. J. F. Fenn, and this year it surpasses both Amaranth and Mrs. Musters, and is one of the largest-trussed Geraniums I ever saw, and at the same time a free bloomer with a good stiff flower stalk. The same trusses have continued in bloom for more than ten weeks, so that trusses which were on the plants when bedded-out in the end of May were still giving flowers in August.

In a large oval bed round which I have trial sorts of Geraniums, I have twelve newer kinds this year. Lucy Bosworth, a pink, is beautiful in pots, but does not promise to bed so well as some others. The same may be said of Lady Byron. Mrs. Huish, one of the old Lord Palmerston type of colour with larger trusses and brighter flowers, has been very promising. In another bed Frank Miles with enormous trusses has had a very massive appearance. Lady Stanhope and Sir H. Stanhope have also done well. The first is an admirable pot plant. Among older sorts, Arthur Pearson, Rose Bradwardine, and Lady Kirkland have still held their own; and last, but not least, except in stature, Violet Hill Nosegay has been as good as ever with me in a row under the windows of my house, where almost every other Geranium would have gone to seed or else grown too grossly.

Among tricolors William Sandy has been the best, and Macbeth next to it. Lady Callum, Edith Pearson, Sophia Dumaresque, and Sophia Cusack have all done well. I will pursue my remarks in another number.—C. P. P.

### POT VINES IN THE OPEN AIR.

It is a very common practice to remove Vines growing in pots from a close warm house into the open air in autumn. Places in which Vines are growing throughout the summer are often wanted for other plants when the cold days and nights set in, and the idea seems somewhat general that any kind of treatment will suit young Vines after the wood is fully developed. This is a great mistake. The future success of a young Vine does not depend so much on its great thickness as being thoroughly well ripened, and placing the Vines in the open air is certainly not the surest way of securing this. They may not be "tucked up against an open wall" until the wood is brown to near the point; but it is very well known that Vines assume a brown hue long before the wood is hard and ripe, and while the leaves are quite green. Vines of this description must be checked severely when taken from a close atmosphere and exposed to all weathers in the open air.



I have seen young Vines placed outside in September when the wood was a dappled green and brown colour, and the leaves quite fresh and green; but these were soon tattered and discoloured with the wind, and when the canes came to be planted they were no riper than when they were first placed outside. The very best of treatment will not ensure success with Vines like these, in fact I believe many failures with young Vines might be traced to this very cause.

\* No young Vine should ever be placed outside in autumn as long as there is an inch of unripened wood about it, and every leaf has fallen through maturity. They will then withstand a great amount of cold and exposure without injury so long as the roots are protected from excessive wet. There is another operation often practised on young Vines, which I question very much the advantage of, and that is pulling the principal leaves off with the hand before the foliage shows any signs of dropping. This must severely check the development of the buds, and cause the wood to shrivel and go to rest prematurely.—VITIS.

### THE AUTUMN PRUNING OF FRUIT TREES.

A NEIGHBOUR who has read my notes on this subject in your last issue of the Journal (page 230) reminds me that I have made what in his opinion is an important omission. The point which is left unnoticed is the second growth, which he considers would result should a long mild autumn succeed the pruning in September which I advocated. As it has occurred to me that others may be of the same opinion as my neighbour, and may consequently hesitate to thin-out their overcrowded trees until they are divested of their foliage, I will not wait for public interrogation, but will anticipate inquiries by further recording my experience on the after-growth resulting from pruning, not in autumn only but also in summer and winter.

My friend is quite right that if a long moist autumn succeeds the September pruning a second growth might issue from the terminal buds, although in practice I have not found it to be so. It is as well to remember that the pruning which is especially beneficial in September is the total thinning-out of superfluous branches and shoots rather than the extensive shortening of growing parts. When the leaves are on the trees the requisite amount of thinning has not to be done by guess-work, but the operator can tell exactly which branches to remove, so that the foliage of those remaining may have light and air.

Now in the case of the branches thus removed they are generally cut where the wood is two or more years old and which contains few if any prominent buds, and the arrested sap is generally appropriated by the foliage remaining on the other branches; and the latent buds near the points from which the branches have been severed remain in a dormant state, at any rate until the succeeding spring, when they will frequently push into growth. Occasionally they commence growing in the autumn, and, if they do, all that is required is to rub them, not cut them off. This second growth is, however, precisely what follows after winter pruning. Fresh growth issues on the moving of the sap in spring, and is soon hidden in a great measure by the surrounding foliage then quickly expanding, and thus has pruning not unfrequently resulted in making the trees thicker than before. Unless fruit trees are looked over in the spring and summer following their winter's pruning, and the young clusters of shoots are rubbed off the snags and branches where such growth is not required, the results of the pruning are in a few years rendered nugatory if not indeed in some cases pernicious.

In respect also to early summer pruning, the second growth issuing is too often left untouched until the winter pruning; and probably at the present moment—in fact I am sure that it is so—there are many trees which cannot sufficiently mature the fruit-bearing wood in consequence of the shade and active sap-movement caused by a mass of sappy "second growth." This second growth should be removed at once in order that the leaves at the base of the shoots and surrounding the spurs can have the light which is so necessary in rendering the trees fruitful.

I have never hesitated towards the end of the summer to remove what I considered superfluous shoots and branches from Peach and Nectarine trees both on walls and in houses, and I have freely and beneficially adopted the practice with trees of Apples, Pears, Plums, and Cherries, which are growing as pyramids and standards. I have always found the wounds heal better when made at that time than at any other, and it is

certain that the trees have been greatly benefited by the full exposure of their foliage to light and air.

Let pruning be done whenever it may—in summer, winter, or autumn, it is very necessary that the trees be examined a few months afterwards in order that the succeeding growths which issue from near the parts which have been cut be rubbed off where not required, or thinned-out and pinched where it is desirable to form spurs and retain foliage. Pruning is only half done when the knife is put in one's pocket—that is, the benefits which are expected from it are only half provided for, and to complete the work careful attention must be given, and given in time, in removing or assisting the growths succeeding. I have thus endeavoured to supply the omissions pointed out to me by my critical neighbour, and anyone having a knowledge of trees will see that the matter now alluded to is important and worthy of attention.

An intelligent use of the knife at the present time in removing superfluous branches cannot fail to be beneficial to the trees, following the practice by subsequently rubbing-off or pinching the after-growth, or the trees will in a very short time become thicker than before and less fruitful in character.—A NORTHERN GARDENER.

### OUR NATIONAL EMBLEMATIC PLANTS.

SOME notes on these were in this Journal a few weeks since, and I hoped to see others, but as they have not appeared I copy the following from a MS. volume. Many centuries before the wars which

"Sent, between the red Rose and the white,  
A thousand souls to death and deadly night,"

the flower had been famous in our island, and its emblem was and is the *Rosa anglica alba*, the white English Rose. Some writers have thought that the name Albion was applied to our island on account of the white Roses it produced.

The Thistle is the emblem plant of Scotland, and if the tradition was founded on fact it is the Stemless Thistle, *Cnicus acaulis*. According to that tradition the Norsemen would have surprised the Scotch clans in a night attack if one of their spies had not uttered a loud imprecation upon treading barefooted upon one of these Thistles. The clans dubbed the plant "The Scotch Thistle," and it was accepted as a representative plant, and the appropriate complimentary motto attached, *Nemo me impune lacesset*—No one injures me with impunity.

It is doubtful what plant was first adopted for Ireland's national plant. Shamrock is a corruption of the Irish "Seamrog," which is applied to many plants, as the Wood Sorrel, purple Clover, Speedwell, and Pimpernel.

The Irish are said to have adopted the Shamrock as a badge when converted to Christianity in the year 433 by St. Patrick. They adopted it because he used the three-leafed plant as an illustration of the Trinity.

St. Patrick probably held up *Oxalis acetosella*. Clover was not introduced into Ireland until centuries after him, and the plant he held up was eaten by the Irish, which points to the *Oxalis*.

Why or when the Welsh adopted the Leek as their national emblem is not known. None of their early bards mention it.

The Tudor colours were green and white, and these were well represented by the Welshmen of Henry VII.'s body guard wearing a Leek in their caps at the battle of Bosworth. There is in Wales a tradition that the Saxons attacked the Britons on St. David's-day and put Leeks in their caps as a distinguishing badge, but the Britons proving victorious transferred the Leeks into their own caps from the caps of those they had slain or taken prisoners. Among the Harleian MSS. is a poem referring to this event, and adding—

"Next to the lion and the unicorn  
The Leek's the fairest emblem that is worn."

Some authorities state that the Leek has become the national plant of Wales because its farmers from time immemorial, when they aid each other in ploughing, according to a custom termed *Cymbortha*, bring nothing but Leeks for their sustenance, all other requirements being supplied by the farmer they are helping.—G.

### MUSA ENSETE.

To grow this monstrous-leaved plant to perfection it must be planted out. I saw a couple of it the other day at the Duke of St. Alban's place, Bestwood Park, Nottingham. Twelve

months ago they were small plants in pots about 3 feet high. They were then planted out in a bed in the large conservatory, and the leaves now extend to a height of about 24 feet. They are two of the finest specimens in the conservatory. The substance they are growing in is nothing but pure loam, and Mr. Edmonds, the gardener, attributes their rapid growth to the great quantities of water with which they have been supplied throughout the summer.—VISITOR.

#### ASSOCIATION OF PLANTS, BIRDS, AND INSECTS.

At the recent meeting of the British Association Mr. A. R. Wallace delivered a lecture, from which the following is extracted:—

Ever since Mr. Darwin showed the immense importance of insects in the fertilisation of flowers great attention has been paid to the subject, and the relation of these two very different classes of natural objects has been found to be more universal and more complex than could have been anticipated. Whole genera and families of plants have been so modified as first to attract and then to be fertilised by certain groups of insects, and this special adaptation seems in many cases to have determined the more or less wide range of the plants in question. It is also known that some species of plants can be fertilised only by particular species of insects, and the absence of these from any particular locality would necessarily prevent the continued existence of the plant in that area. Here, I believe, will be found the clue to much of the peculiarity of the floras of oceanic islands, since the methods by which these have been stocked with plants and insects will be often quite different. Many seeds are, no doubt, carried by oceanic currents, others probably by aquatic birds. Mr. H. N. Moseley informs me that the albatrosses, gulls, puffins, tropic birds, and many others nest inland, often amidst dense vegetation, and he believes they often carry seeds attached to their feathers from island to island for great distances. In the tropics they often nest on the mountains far inland, and may thus aid in the distribution even of mountain plants. Insects, on the other hand, are mostly conveyed by aerial currents, especially by violent gales; and it may thus often happen that totally unrelated plants and insects may be brought together, in which case the former must often perish for want of suitable insects to fertilise them. This will, I think, account for the strangely fragmentary nature of these insular floras, and the great differences that often exist between those which are situated in the same ocean, as well as for the preponderance of certain orders and genera.

The unusual proportion of Ferns is a general feature of insular as compared with continental floras; but it has, I believe, been generally attributed to favourable conditions, especially to equable climate and perennial moisture. In this respect, however, Tahiti can hardly differ greatly from many other islands which yet have no such vast preponderance of Ferns. This is a question which cannot be decided by mere lists of species, since it is probable that in Tahiti they are less numerous than in some other islands where they form a far less conspicuous feature in the vegetation. The island most comparable with Tahiti in that respect is Juan Fernandez.

Now, as far as we know, the extreme entomological poverty of Juan Fernandez agrees closely with that of Tahiti; and there are probably no other portions of the globe equally favoured in soil and climate and with an equally luxuriant vegetation where insect life is so scantily developed. It is curious, therefore, to find that these two islands also agree in the wonderful predominance of Ferns over the flowering plants—in individuals even more than in species, and there is no difficulty in connecting the two facts. The excessive minuteness and great abundance of Fern spores causes them to be far more easily distributed by winds than the seeds of flowering plants, and they are thus always ready to occupy any vacant places in suitable localities, and to compete with the less vigorous flowering plants. But where insects are so scarce all plants which require insect fertilisation, whether constantly to enable them to produce seed at all, or occasionally to keep up their constitutional vigour by crossing, must be at a great disadvantage; and thus the scanty flora which oceanic islands must always possess, peopled as they usually are by waifs and strays from other lands, is rendered still more scanty by the weeding-out of all such as depend largely on insect fertilisation for their full development. It seems probable, therefore, that the preponderance of Ferns in islands (considered in mass of individuals rather in number of species) is

largely due to the absence of competing phænogamous plants; that this is in great part due to the scarcity of insects. In other oceanic islands, such as New Zealand and the Galapagos, where Ferns, although tolerably abundant, form no such predominant feature in the vegetation, but where the scarcity of flower-haunting insects is almost equally marked, we find a great preponderance of small, green, or otherwise inconspicuous flowers, indicating that only such plants have been enabled to flourish there as are independent of insect fertilisation. In the Galapagos—which are perhaps even more deficient in flying insects than Juan Fernandez—this is so striking a feature that Mr. Darwin speaks of the vegetation as consisting in great part of “wretched-looking weeds,” and states that “it was some time before he discovered that almost every plant was in flower at the time of his visit.” He also says he “did not see one beautiful flower” in the islands. It appears, however, that Compositæ, Leguminosæ, Rubiacæ, and Solanacæ form a large proportion of the flowering plants, and as these are orders which usually require insect fertilisation, we must suppose either that they have become modified so as to be self-fertilised, or that they are fertilised by the visits of the minute Dipteræ and Hymenopteræ, which are the only insects recorded from these islands.

In Juan Fernandez, on the other hand, there is no such total deficiency of showy flowers. I am informed by Mr. Moseley that a variety of the Magnoliaceæ *Winter's Bark* abounds, and has showy white flowers, and that a Bignoniaceæ shrub with abundance of dark blue flowers was also plentiful; while a white-flowered Liliaceæ plant formed large patches on the hillsides. Besides these there were two species of woody Compositæ with conspicuous heads of yellow blossoms, and a species of white-flowered Myrtle also abundant; so that, on the whole, flowers formed a rather conspicuous feature in the aspect of the vegetation of Juan Fernandez. But this fact—which at first sight seems entirely at variance with the view we are upholding of the important relation between its distribution of insects and plants—is well explained by the existence of two species of humming birds in Juan Fernandez, which in their visits to these large and showy flowers fertilise them as effectually as bees, moths, or butterflies.

This leads to the observation that many other groups of birds also, no doubt, aid in the fertilisation of flowers. I have often observed the beaks and faces of the brush-tongued lorises of the Moluccas covered with pollen; and Mr. Moseley noted the same fact in a species of *Artamus*, or swallow-shrike, shot at Cape York, showing that this genus also frequents flowers and aids in their fertilisation. It must also be remembered, as Mr. Moseley has suggested to me, that a flower which had acquired a brilliant colour to attract insects might, on transference to another country and becoming so modified as to be capable of self fertilisation, retain the coloured petals for an indefinite period. Such is probably the explanation of the *Pelargonium* of Kerguelen's Land, which forms masses of bright colour near the shore during the flowering season; while most of the other plants of the island have colourless flowers in accordance with the almost total absence of winged insects. The researches of Dr. Herman Müller have shown us by what minute modifications of structure or of function many flowers are adapted for partial insect and self fertilisation in varying degrees, so that we have no difficulty in understanding how, as the insects diminish and finally disappear, self fertilisation may have become the rule, while the large and showy corollas remain to tell us plainly of a once different state of things.

As the sweet odours of flowers are known to act in combination with their colours as an attraction to insects, it might be anticipated that where colour was deficient scent would be so also. On applying to my friend Dr. Hooker for information as to New Zealand plants, he informed me that this was certainly the case, and that the New Zealand flora is, speaking generally, as strikingly deficient in sweet odours as in conspicuous colours. Whether this peculiarity occurs in other islands I have not been able to obtain information, but we may certainly expect it to be so in such a marked instance as that of the Galapagos flora.

#### PETROLEUM VERSUS AMERICAN BLIGHT.

THANKS for the information derived from a perusal of your Journal, I have been able to almost entirely get rid of that pest to my Apple trees, American blight. Last year the trees were completely covered, but after the fall of the leaf I had

them carefully dressed with petroleum, which was applied to the affected parts with a paint brush. Contact with the petroleum seemed to destroy the insects, and I was in hopes they had entirely disappeared. This summer, however, there have been signs of them again, but whenever the blight makes its appearance an application of the brush dipped in petroleum at once extinguishes it. The contact of the oil with the leaves and fruit buds apparently does no injury, and I see that with a little patience and perseverance my trees, which were in a fair way for being ruined, can be preserved.—E. B.

### WOODEN FENCES FOR FRUIT TREES.

THE construction of fences for enclosing small gardens has not hitherto received that attention which it merits. The primary object is of course to define the boundaries of the garden, to exclude intruders, and in towns to obtain as much privacy as may be. The more important points of shelter and warmth, bearing as they do more upon the future than the

posts and rails, and nailing some boards upon them—precisely what is done in many instances. But it should not be forgotten that when trees are found to require the protection of some such weather-screen as this its shelter should be as perfect as possible—there must be no cracks or openings to give admission to the cold blasts of spring; and yet I have seen fences with Peaches and Nectarines trained upon them that had a clear space of half an inch or more from top to bottom between every two boards, which had evidently shrunk after they were nailed upon the rails. It may be that in some instances unseasoned timber has been used and there has been a proportionate shrinkage, for all boards when thus fully exposed are quite certain to contract with heat and expand with cold in some degree; so that the use of the very best seasoned crown memel battens will only afford a modification of the evil if the same faulty method of construction is followed.

The plan which I have found to answer best is not to plough a groove along the edges of the boards and tongue them together with thin strips of deal, but to make a lap or shoulder along

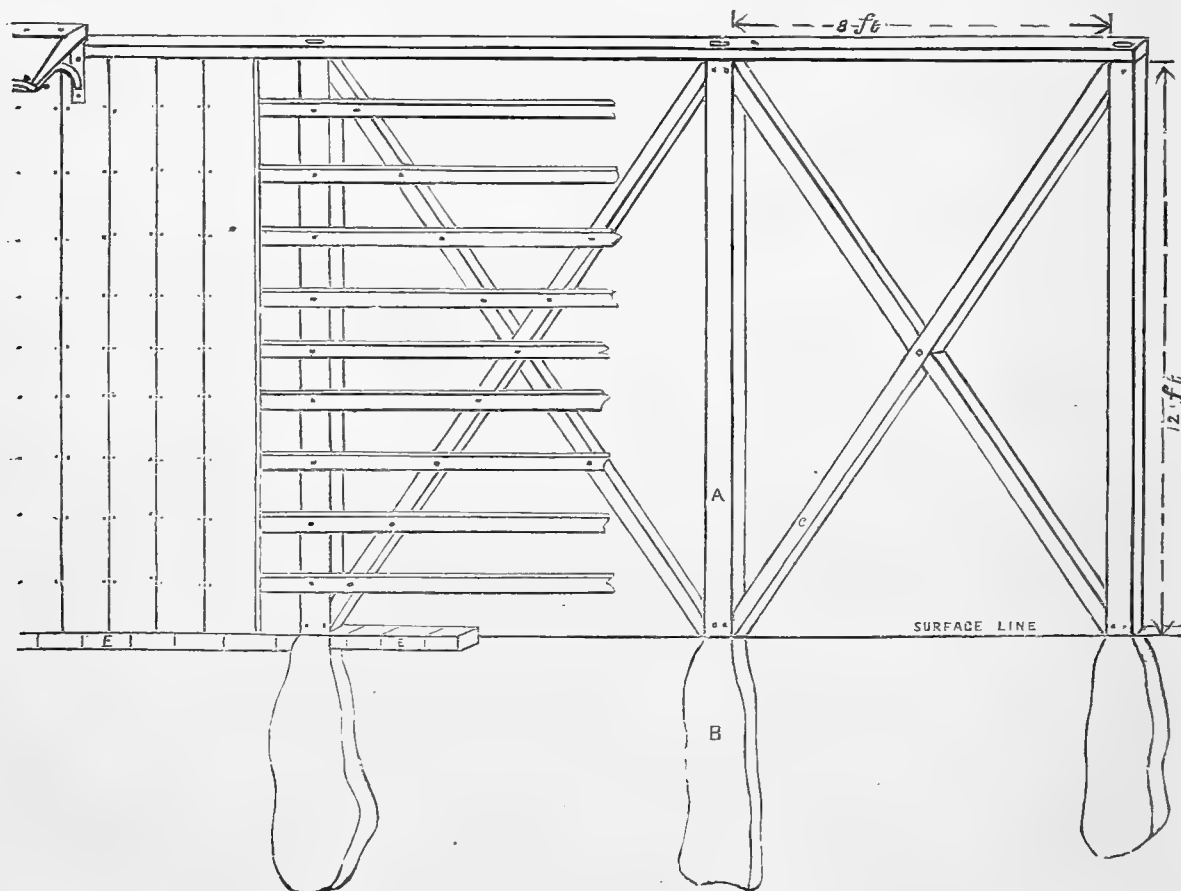


Fig. 32

immediate present, are apparently not much thought of, most fences being deficient in this respect. "W. W." however, is evidently fully alive to the value of fence surfaces for the culture of delicate fruits as well as for the shelter which a good fence affords; for in his letter of inquiry about their construction he not inaptly terms them wooden walls. I have seen many of them, but never one that was not faulty in some respect or other. It is therefore my purpose in replying to our correspondent to explain fully the details of a really good fruit-tree fence both as to its materials and construction.

The most important points to secure are utility blended with durability, and lightness so far as is compatible with strength—really a plain boarded surface without a single open joint or fissure, fastened securely upon a strong frame of timber. This to the superficial observer would appear a very simple matter—just the putting-up of a certain number of ordinary

the edges, letting the boards overlap each other, and driving the nails through both laps as shown at A, fig. 34, thus effectually preventing any openings at the joints. Fig. 32 represents a very strong boarded fence for fruit trees, designed to meet the requirements of "W. W." and others requiring a high fence or screen. The upright posts should be of oak and 6 inches square in the sawn part A, the rough part B being left as large as possible. This part, being buried in the earth, will soon decay if it is not previously dressed with some preservative. Steeping in tar is an excellent plan, but as that may prove a somewhat troublesome and nasty operation to many, I may append the valuable receipt of a paint for this purpose which Dr. Hogg gives us in his useful "Year-Book":—"Take boiled linseed oil, and stir-in pulverised charcoal to the consistency of paint. Put a coat of this over the timber, and the exclusion of damp will be perfect. Basswood posts have been

taken up after having been set seven years that were as sound when taken up as when first put into the ground. Time and weather seemed to have no effect on them. The posts should be well seasoned before the oil and charcoal are applied, and the paint should be thoroughly dry before they are put in the ground." The braces c, and the whole of the other timber-spars, coping, and other boards, should all be of the best seasoned crown memel deal; the braces being 4 inches square, the spars 2 inches by 1 inch, and the boards 8 inches wide by 1 inch thick, the laps or shoulders along the edges being half an inch in depth, so that each board would do 7 inches of the fencing. The nails should be  $2\frac{1}{2}$  inches long of the sort technically called fine-clasp, which may be made to turn at the tip and clinch upon the board, and not cut-clasp, which are so brittle that the ends break off if one attempts to clinch them. The boards in every fence, however small it may be, should

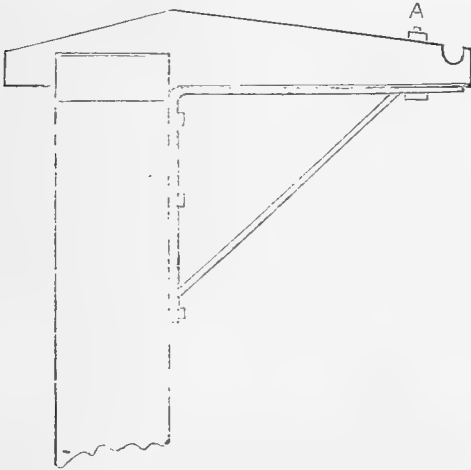


Fig. 33.

be fixed vertically as in fig. 32, and not horizontally, in order that no moisture may accumulate in the joints. The single course of brickwork, *e*, is also strongly recommended for all fences to preserve the bottoms of the boards and to exclude vermin. The coping, 15 inches wide, should be made to go over the plate on the top of the fence, and be supported upon iron brackets screwed upon the fence for that purpose; and there should be an iron bolt or rivet (see *A*, fig. 33), passing through the end of each bracket and the coping near its front edge to prevent warping, which will otherwise always occur when the sun is powerful.

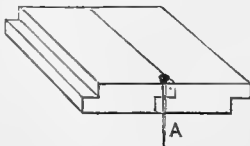


Fig. 34.

There are many opinions as to the colour which such fences should be painted, many insisting that a black surface is preferable to all others, from the great power which all substances of that colour have of absorbing and radiating the rays of the sun. It should not be forgotten, however, that when walls and fences become clothed with the foliage of the trees trained upon them, so little of the surface is left exposed to the direct action of the sun that the colour becomes quite immaterial. One may therefore very safely conclude to consult one's own taste as to colour, laying most stress upon the painting being thoroughly well done, in order that it may serve its legitimate purpose of a preservative of the body which it covers.

It must not be forgotten that so high a fence as the one figured runs great risk of being blown down if exposed to high winds. There are two ways of making it firm: one by putting stays behind it aboveground; and the other and more generally preferable plan is to put in rough spurs below ground, strutting to the front and back of the fence posts. If these

spurs are large, long, and well rammed about with stiff clay, the fence will brave the roughest wind and the objectionable stays are avoided.—EDWARD LUCKHURST.

### APPLES.

"WILTSHIRE RECTOR" mentions the Hawthornden as bearing good crops this year where all others are failures. I have noticed the same thing in previous years; in fact, it is a kind that rarely fails totally. I always depend on Hawthorndens as early Apples for market purposes, gathering the best fruit first in preference to Keswick Codlin, as the latter are inferior in size. In consequence of this early gathering many of them would come from the tree with the wood attached. I have an idea that by annual spur-thinning I have gained a more regular succession of fruit. Be that as it may, I believe the Hawthornden to be one of the most useful Apples grown, and were I planting an orchard I should use this kind largely. The Keswick Codlin I do not like, it shrinks so much in cooking, and is not nearly so saleable as many others.

I can recommend Domino as a good Apple and very precocious in bearing. I have not heard any other name for it. It can be obtained at any nurseries in the midland counties. But the handsomest crop I ever saw on a young tree was Pike's Pearmain, a splendid Apple. Another good sort for kitchen use, a very free bearer and large size, is the Greasy Coat. I never knew it by any other name, but I do not know any autumn Apple to surpass it.

I seldom see the Scarlet Nonpareil mentioned as a table Apple, to my taste it is perfection.—J. J., Lancashire.

### ELECTION OF ROSES.

AND dost thou think that I be such a gaby that I will tell ye all what Roses I tak to be best? Not I. I be no such a fule as that comes to. I dinna moind naming a two or three which I consider reglar stunners, but unless I be paid weel for it no more will I impart. I doant moind ever telling anything oi knaws for a consideration, but withoot such a stipulation oi no tells moy moind. Nay, nay, lads; fair play's a jowell, and nowt for nowt, is my twae mottoes.

In this part of t' countrie many of your fair-weather sailors, your delicate sensitive articles, just turn up their eens and dee as soon as a wee flake of snaw or a sleet comes, or a pinch of frost tak hold on em. But best of all by a long chalk is that reglar stunner the Jeneral. Eh, lads, but he's a moighti fine chap; his colour is loike our Betsy's after she has had twae or three good turns at kiss i' the ring. Some call him Jacqueminot and some Jack, but oi knaws him best by t' name of Jeneral. They tells me that he's been a rare profligate parent, the sire of mony a grand Rose, too numerous to enumerate onless for a consideration. Foremost and grundeest amongst his sons is the Dook of Edingburgh, and I hears that no end of marquises and dooks and lords are descended fra him. He, maybe, is a troife thin and fluff at toimes, but that is when he has not been pruned enuff; for "spare t' rod and spoil t' chield" is moighty true about the Jeneral. After him cums yon famous variety, that like England's flag has stnd the battle and the breese for twenty years or more, auld John Hupper. I was right capped when furst I saw a posy made up of that Rose. Nae thinness or weakness of constitution about auld John. Ivery pital croudged on to its nabor; of a foine deep rose colour, someat loike our untsman's coit when its a leetle the waur for wear, but not near so many spots in it. Folk say that this ere Rose is loike the coit, and is not what it ance was, which they say is deteriorieted, or sum sich grund word, but wi' me here in t' north it niver fails to plaize.

Next in moi esteemation cums Gloiry of my John. They calls him a Tea Rose I beleeve, but whoy or wherefore I canna tell, for he's as strang and as erect as Gog and Magog or any ither friend of theirs. Put him where ye wull, and he'll cloimb and grow till he's that gross that you have to cut him doon lest he pull your huse doon. Another friend of moine is a youngster of great promise. I doe not venture to prophesie that he'll lick or surpass the ither ones I've named, but he'll run em varry close. Then thers that Edward Moorhen. I knaws that he hes mony detractors and such loike, but properly treated and in a sootable soil he'll flourish loike a green Baiy tree. I'd loike to poise the chaps as says he'll not open, for he wull as weel as ony o' the best. Among the loights thers that ere French Madame Rothschild, which canna be beat here or



elsewhere according to my judgement. It has, however, one grand defect which I've observed the new sorts lately sent out from France generally have, and that is want of perfume. It has no more smell than an artificial one in a glass case, but in colour and form 'tis often like a Camellia. 'Tis a good autumn variety also, which many aren't.

As for them beautiful Teas which I have seen at shows, I can do nowt wi' em in this climate unless I have a hoose to grow em in; and this I cannot have, for there's little to earn and money to keep. A friend of mine who has a wee bit of a stroocture nor bigger than a henhouse grows in it wonderfu Salamanders and Bulgaviles and Enoch's Amazons and sich like—[We presume our correspondent means Allamandas, Bougainvilleas, and Eucharis amazonica.—Eds.]—never looks at a Tea Rose. I says to him, says I, "Friend Manchester, whoy doant ye turn your annds to Tea Roses, sich as we seed those southron chaps shaw at t' Cristal Palass, when me and Betsy and your missus went by cheap trip to Lunnon, sich as Maria bran boots, Sovereign's Delight, and Catherine Mermaid—[Here we suppose Marie Van Houtte, Souvenir d'Elise, and Catherine Mermet are alluded to.—Eds.]—and Clath of Goold. Them's the stuff to coltivate; foine they be, and grander than they stoave plants." But he wulln't agree. And noo I've tauld ye all I mane to, onless, as I've said afore, you mak it warth me whole.—YORKSHIRE TYKE.

### THE WESTMINSTER AQUARIUM AND SUMMER AND WINTER GARDEN.

I VERY much regret to inform you that the large fruit show which was arranged for the 4th and 5th of October next will not take place, owing to a change in the directorate. This has only come to my knowledge this afternoon, and I have therefore taken the earliest opportunity of letting the exhibitors know this by advertisement and otherwise. No one can regret this more than I do, for I feel sure it will be a great disappointment to many who will have made considerable preparations for it, and I confidently looked forward to seeing at Westminster in October one of the largest and best fruit shows ever held in London.

I have no doubt the flower and fruit shows will be again held at Westminster next year. I did my very best to make them a success this year, and I hope to have the pleasure of again meeting all the exhibitors who so well supported me with their grand exhibits of flowers and fruit, and I take this opportunity of thanking them all for the assistances they gave me.—JOHN WILLS, *Royal Exotic Nursery, South Kensington.*

### FILBERTS.

WE, in common with other editors, observe that topics seem at times to be epidemic; many letters reach us asking for information on one and the same subject. Just now the Filbert is brought before us by several correspondents, and one from Kent, we think, could tell us more than we can tell her. The following notes include the information required by all our querists, and we are indebted for them to Phillips's "Companion for the Orchard" and Dr. Hogg's "Fruit Manual":—

"Filberts were originally brought out of Pontus into Natiolia and Greece, and were, therefore, called Pontic Nuts; from thence they were procured by the Romans, and brought into Italy, where they acquired the name of Abellan, or Avellan Nuts, from Abella or Avella, a town of Campania, where the best were cultivated (*Pliny*, b. xv. c. 22), and from thence arose the French name Aveline.

"When first known in this country they were called Nuts with Full Beards, to distinguish them from the common Hazel nut, as it will be observed that the husk or covering of this nut resembles a man's full beard; this was first corrupted into Filbeard and Filberd, and from thence into Filbert.

"These nuts still continue to be cultivated in the neighbourhood of Avelino, and, according to Mr. Swinburn's account, the whole face of the neighbouring valley is covered with them, and which in good years brings in a profit of 60,000 ducats (£11,250).

"The inhabitants of Avelino refresh the roots of these trees with new earth, and prune off the straggling shoots with great attention. Evelyn tells us in his 'Sylva,' that his family name was derived from Avelin—I find (says he) some ancient records and deeds in my custody, where my ancestors' names were written Avelan, alias Evelyn, generally."

"Frizzled Filbert (Frizzled Nut; Cape Nut).—Husk hairy,

twice as long as the nut, deeply frizzled, and spreading open at the mouth. Nut small, oblong, and flattened. Shell thick. Kernel full. This is rather a late variety. The tree is an excellent bearer, and the nuts are produced in clusters.

"Lambert's Filbert (Kentish Cob; Filbert Cob).—Husk nearly smooth, longer than the nut, and very slightly cut round the margin. Nut large, oblong, and somewhat compressed. Shell pretty thick, of a brown colour. Kernel full, and very richly flavoured. This is perhaps the best of all the nuts. The tree is a most abundant bearer; some of the nuts are upwards of an inch in length, and they have, with care, been kept for four years. It is only after being kept for some time that their full richness of flavour is obtained.

"I am not aware whether this was raised or only introduced by Mr. Aylmer Bourke Lambert, of Boynton, Wiltshire; but it is through him that it first was brought to the notice of the Horticultural Society about the year 1812. It is improperly called Kentish Cob, for the true Cobs are roundish thick-shelled nuts, and it is not many years since it was grown in the orchards of that county, the only varieties previously cultivated being the Red and White Filberts. As an evidence that it is of comparatively recent introduction it is not mentioned by Forsyth or Rogers.

"Purple Filbert (Purple-leaved).—This differs from the Red Filbert in having the leaves of a dark blood-red colour, like those of the Purple Beech. The fruit is similar to, and quite as good as, that of the Red Filbert, and is of a deep purple colour. It is, therefore, not only valuable as an ornamental shrub, but produces excellent fruit.

"Red Filbert (Red Hazel).—Husk hairy, longer than the nut. Nut of medium size, ovate. Shell thick. Kernel full, covered with a red skin.

"White Filbert (Wrotham Park).—Husk hairy, longer than the nut, round the apex of which it is contracted. Nut medium-sized, ovate. Shell thick. Kernel full, and covered with a white skin."

### EARLY ROSE POTATO.

"MARKET GARDENER" need not be afraid to advocate the planting of Early Rose Potato in rich or even wet garden ground, for it succeeds admirably. My soil is about as retentive of moisture and as rich as it can possibly be, and having grown Early Rose for years I can testify that the more I know of it the better I like it. The crop this season is simply prodigious, and the quality unsurpassable. Let me recommend those who now abuse it to try it again. Plant early, dig early, consume early; and when they have finished and have to take to other Potatoes I think they will have to admit that Early Rose is equal to any, and the best early Potato grown. But it will not keep. Eat as you dig if possible, but if you must lift and store do not let the tubers lie exposed to the air a moment longer than necessary. Put them away fresh as they come from the earth into layers of dry soil or sand, and use them before you commence other sorts.

Late Rose seems to be the same Potato, with good keeping qualities. It ripens about a month later than the other, and is a most valuable variety. It does with me as to cropping and quality quite as well as its early sister.

Snowflake is also first-rate here, and very handsome. In fact in this locality the Americans are fast driving all other Potatoes out of the fields and gardens. While on the exhibition table no others appear to have a chance against them.—R. W. BEACHEY.

THIS Potato has been with me this season, as "A MARKET GROWER" describes, "of unsurpassable quality, and even preferable as a 'floury' or 'mealy' Potato to several of our standard varieties. It has been condemned here in previous seasons, and our soil is of a sandy poor nature, but the excessive drought and heat, in my opinion, have had more to do with improving its quality than anything else. Although not a reliable variety as a table Potato, it is nevertheless useful for the kitchen, being both early and prolific.—J. W. MOORMAN.

### BOTANICAL NAMES.

MOST horticulturists, probably, have been asked the name of a plant by some visitor. The answer being given, the reply is, "Who can recollect such long words? Why not give the plant an English name?" And who can understand the English name when it comes? More Englishmen will understand

what plant is meant by *Salvia patens* than by *Eglantine*, *Harebell*, or *Culverkeys*, all of which have lately been made subjects of inquiry.

I was led into this train of thought by reading the "Aspects of Nature" in p. 188. In my younger days I rambled much over the three kingdoms botanising, and met, no doubt, many Rambling Widows, but I do not recognise the plant so named, which the authoress found at Broadstairs. Perhaps you will favour your readers with the name, not in plain English, but in plain Latin, and then they can refer to any botanical catalogue for particulars of the plant.—G. S.

[It is desirable to state both the botanical name and the popular name of a plant. Probably "Rambling Widow" is the Ramping Famitury, *Fumaria capreolata*.]

### NEW BOOK.

*The Grape Vine.* By JOSEPH MEREDITH. London: George Philip, Son, & Nephew, 32, Fleet Street.

MR. MEREDITH has been such a successful grower of Grapes that a record of his practice cannot but be useful and reliable. This practice he now places before the public in a small and handsome volume. We have glanced through this volume, and, as we anticipated, have found nothing particularly new or startling. Mr. Meredith has achieved success in culture by the adoption of means which are at the command of a majority of Grape-growers. Attention to small details, and an intelligent appreciation of the nature of the Vine and its requirements during its different stages of growth, are the principal elements which have contributed to the success of which this little book is the outcome.

The volume contains figures of vineries, with hints on construction, heating, and the general management of the Vine under different systems of culture. The chapters are short and plainly written. Their nature will be best understood from a few extracts. On border-making Mr. Meredith states—

"The deeper the borders are made, the more care is necessary in forming them. Where there is plenty of good composition to be had, and other necessary materials for drainage, a border may be made to the depth of 5 or 6 feet with advantage. As a rule, I recommend borders to be made about 3 feet deep. Shallow borders I do not advise, as they are apt to get too dry. Where hot-water pipes or fermenting materials are used in chambers or vaults underneath the Vine borders they require careful watching, as they sometimes get very dry, especially when hot-water pipes are applied. They do not require watering so often where the fermenting materials are made use of for bottom heat.

"Where it is convenient, I recommend the construction of Vine borders nearly altogether above the level of the garden walks. They may adjoin the range of vineries, and be made to assume a terrace-like appearance, more especially in cold and damp situations. I have done this many times, and with great success. The majority of Vine borders are on a level with the walks, while many are even below it; in the latter case they form a sort of cesspool for draining the land around them. Where the substratum is a cold, wet swamp, the houses and borders should not be on a low level. Where the formation is chalk or gravel, the borders may be made about three parts below the level of the walks, which will prevent evaporation going on too rapidly."

On the packing of Grapes for long journeys the author writes—

"There are several ways of packing Grapes for travelling. I recommend that very large bunches should be packed in very dry sweet wheat bran. Smaller bunches may be packed in stiff cartridge paper, as closely as possible without squeezing the berries. After tying each bunch neatly, pack the bunch or bunches tight together in a box with clean, dry, chopped wheat straw, taking care to fill up every crevice, which may be done with the fingers; and before putting the lid on, the chopped straw should be gently pressed down, so that if the box does happen to get knocked about on the journey the Grapes will not often get injured, and will arrive at their journey's end with nearly all the bloom on."

On the destruction of insects the following practice is detailed. For destroying red spider—

"As soon as the Grapes have nearly finished stoning, I mix unslaked lime with sulphur of the best quality and water, in the following proportions:—One medium-sized lump of lime to a bucketful of water and 2 lbs. of sulphur; stir and mix it all together, making it the thickness of paint; then with a whitewash brush paint about two-thirds of the surface of the hot-water pipes or flues. I have adopted another plan with success—viz., pouring cold water on the pipes and flues, and then dredging

them with as much powdered sulphur as can be made to stick on the pipes, but only a slight scattering on the flues. Care must be taken that the flues are not made too hot, as they are liable to set the sulphur on fire, which would destroy both fruit and foliage. Choose a still night for the operation. If the atmosphere is moist and dull, so much the better; the fumes then stay longer in the house, and are, therefore, more dense. I advise to begin about four o'clock in the afternoon to push on the fire, getting the pipes very hot by the time the sun has gone down, so as to raise the temperature the first night to 85° at eleven or twelve o'clock at night; but this temperature must not be exceeded. Examine the leaves carefully next morning with a magnifying glass. This will enable you to find out whether the spiders are destroyed or not; if not, repeat the process the following evening, raising the temperature, however, to 90°. If the enemy still remains, try again the third evening, keeping the temperature the same; and if these directions have been adhered to, it will be found that few insects will remain alive. The temperature must be carefully watched, so that it does not get higher than 90°."

For the destruction of thrips sponging the foliage with soft soap and tobacco water, also fumigating, is recommended. In this chapter appears the following—

"Some gardeners, in order to get rid of this pest, begin, after the Vines are pruned, to strip off all the bark; and I have seen some go so far as also to scrape the Vines, which I consider a most unnatural operation. Besides this, I have seen a mixture applied, in which soft soap and turpentine predominated. I have also known inexperienced people dress the Vines all over with linseed oil, the consequence being that the oil penetrated the stems until it almost killed them; and four or five years were spent in the endeavour to bring the Vines round again into a state of fruitfulness, with no result. In my opinion, the bark ought not to be stripped off, nor should the stems be afterwards scraped. It will be easily understood that the scorching rays of the sun act very powerfully on Vines deprived of bark—in fact, the bark is their natural clothing. Loose bark hanging a foot or two from the stem may, of course, be cut off; but the Vine should not be scraped nor the bark peeled off, as is often done. Notice how noble our forest trees look with their beautiful bark, protecting the rising and descending sap. I have seen horses eating the bark off trees, but as soon as the bark is removed the tree begins to die."

For killing mealy bug the author states briefly that—

"If spirits of naphtha be applied carefully with a fine camel's-hair brush, the least touch will kill the insect. After using the spirits I recommend sponging the plant with a little soft soap and water. If these precautions are repeated once a week or fortnight, as may seem necessary, it may be kept under control. I would also advise to give the house containing the fruit or plants a good cleansing once a year at least, and a coat of paint, or two coats if necessary."

The volume closes with a calendar of operations for every month in the year, which is similar, however, to the advice which is given weekly in the columns of the gardening press. It is a useful book, but not superior to others on the same subject already in circulation, and the question arises, Was another volume on the "Grape Vine" wanted? We leave that question for the public to answer. The extracts given will enable them to judge of the book, and it only remains to say that it contains about ninety pages of widely printed matter, printed well it must be added, on stout toned paper, each page having an ornamental border of Vines, shadowing the appearance of too many Vines now growing in having all the bunches at the top of the rods.

### STOCKS FOR ROSES.

MUCH has been written about Rose stocks. I find by experience that a stock which does well in one locality will not flourish in another; and if an amateur intends to exhibit blooms well during most seasons he must have Roses on different stocks. Seasons have great influence over stocks, and in one season we find the Briar and the next the Manetti stock superior.

As a rule mildew does not attack the Rose on the Briar so soon as on the Manetti, nor do late spring frosts nip the Rose so severely on the Briar as on the Manetti. Cultivated Briars are useful for all the thin-skinned varieties, but all the thick-skinned varieties, as a rule, flourish as well on the Manetti as any other stock, and no stock can furnish sap so quickly as the Manetti when the season suits it. No Roses are so grand as those that come from the Manetti for fullness, colour, freshness, and perfection of form.

It is a great mistake to discard a stock which is proved use

ful for the sake of something new. I have known, for instance, "old hands" dig up good established plants to plant others on a new stock, and afterwards regret committing the error. The seedling Briar is a good stock for some varieties and some seasons, but I have seen Roses exhibited on this stock as dull-looking this season as blooms from other stocks.

For hardy Tea Roses one of the best stocks is the cultivated Briar, either dwarfs or low Briars of 18 inches above ground. This is a grand stock, and if I was only allowed one stock for all Roses, places, and purposes I should select the cultivated Briar young and healthy. I do not know anything to surpass it. It grows Roses of sterling quality, and is worthy of recommendation.—H. MERRYWEATHER, *Southwell*.

### COMMELINA TUBEROSA.

THE Spiderworts have many representatives, widely diverse in their habits, character, and appearance, as may be expected when we note the great geographical range of their habitats. They are found in North and South America, in India, Australia, and in the territory of the Cape of Good Hope. There



Fig. 35.—*Commelina tuberosa*.

are annuals, herbaceous perennials, and stove, greenhouse, and hardy trailers. The fleshy roots or rhizomes of some of the species are eatable when cooked. Kämpfer has stated that ultramarine is prepared from the beautiful blue flowers of *C. communis*.

The tubercles of the species figured abound in starch. It is, however, as an ornamental plant that it is primarily noticed. Its flowers are of a rich blue, and the habit of the plant is pleasing. Being a native of Mexico it is strictly speaking a stove plant, but it flourishes well in the garden during the summer. In the autumn the roots should be taken up and stored like Dahlias. This species only grows about a foot in height, and is not seen so frequently as its merits deserve. Tubers are generally ready for sale towards the end of October, and should be stored in sand, starting them in spring in heat, subsequently hardening the plants and planting them out; or they may be allowed to flower in the pots. The flowers continue long in beauty, and are useful for cutting, their rich colour being always admired. Plants may also be raised from seed.

The genus was named in honour of the Dutch botanists J. and G. Commelin. *C. tuberosa* was introduced in 1732, and flowered in the garden of Dr. Sherrard at Eltham in that year.—W. J. S.

### LILIUM AURATUM.

IN your number published on the 7th inst. you remarked on the *Lilium auratum*, showing the great advantage planting-out has over pot culture. I have seen it grown well in pots, but to see it in perfection planting-out is decidedly the best mode

of culture. It is perfectly hardy, and after planting little care is given. Digging about the plants I have never done, as I consider it would be injurious.

Four years ago I made a large *Rhododendron* bed; this I had trenched 2½ feet deep, filling it with sandy loam and peat, and among it a quantity of white sand. This mixture Mr. Waterer of Knap Hill assured me, when I wrote for the plants, would suit them well, and it has proved so. When he replied to my order he said, "Why not plant among them some *Lilium auratum*?" I adopted the suggestion, and the first year after planting they made a good display, and every year increasing in strength and numbers of flowers, and some among them of the most beautiful varieties. The bulbs have never been removed since, and they are liberally watered in dry weather. This year they commenced blooming about the middle of July, and in August they were very grand. One clump more than 7 feet high had 121 blooms on it; many had thirty, forty, and more. Being different varieties their blooming has continued, and at the present time (September 11th) they are still very beautiful, some stems having twenty, thirty, and forty blooms on, and they perfume the air all round.—T. CLEMENTS, *Pains Hill*.

### SEASIDE PLANTS ON THE LANCASHIRE COAST.

ALONG the whole Lancashire coast the gales beat with considerable severity; and at the watering places, such as Fleetwood, Blackpool, and Lytham, lodging-house proprietors, who vie with each other in trying to make their gardens and house fronts attractive by planting shrubs and climbers, have evidently a difficulty in selecting proper subjects for the purpose. At Lytham, which presents a long frontage of handsome villas to the wide estuary of the Riddle, up which the tide rushes about as rapidly as it does up the Solway, and often accompanied by a gale, the effects of the blast upon the different kinds of trees and shrubs are very apparent. Deciduous trees, such as the Elm, Beech, Laburnum, Plane, Hazel, &c., make some growth annually, but their appearance is completely spoilt by the blast soon after they come into leaf. At present (the second week in August) they are as brown and withered-looking as if a black frost had passed over them, and they have been in this state during the most of the summer, we understand; and this state of things is not confined to the beach, for inside the town, within the shelter of the houses, they are little better. There is only one notable exception among the deciduous class, and that is the common Willow. In the apparently dry sandy soil it grows amazingly, and is always green and luxuriant close to the sea, and is in consequence extensively planted for sheltering purposes. In the extensive Lowther Gardens, presented to the town by Colonel Clifton of Clifton Hall, it is employed almost exclusively for sheltering the more tender subjects, being used as the background everywhere. It gives rather a sameness of aspect to the grounds, but the sweeping lines of Willows have nevertheless a highly ornamental effect, and we were never so much impressed with its value as an ornamental tree before.

It is amongst the evergreens, however, that we find the most suitable subjects. Sweet Bays, Golden Hollies, Arbutus, Laurustinus, Evergreen Oaks, and Aucubas, are everywhere the most telling objects on the beach, and they seem to suffer but little; in fact, the Bays and Laurustinus thrive and grow to tree-like dimensions. The Laurel does not seem to like the sea breeze, but the Laurustinus is an excellent substitute. Among climbers the Ivy and Passiflora cærulea are the best. The last is growing on some of the house fronts within fifty or sixty paces of high-water mark as rampantly as a hardy Clematis, and is fairly smothered with flowers; we never saw it in such luxuriance before. The Fuchsia, both hardy and tender varieties, grows well during the summer, but is invariably cut down to the ground by frosts in winter. On the Isle of Man, about fifty miles distant, and almost within sight, it grows 20 feet high, and is nearly evergreen. Only the other day we noticed there in a Fuchsia hedge limbs nearly as thick as one's leg, with great spreading branches hanging over into the highway; so much for the difference of climate.—J. S. (in *The Gardener*).

DAHLIAS.—In our report of the Horticultural Meeting at South Kensington on the 6th inst. it appears as if the twelve very fine Dahlias which are named were included in Mr.

Turner's collections, whereas they were exhibited by Mr. G. Smith, and a vote of thanks given for them.

### THE DROUGHT—ITS LESSONS.

THE degree of hardness of any plant can only correctly be ascertained when it is in full health and when it grows in a soil and situation to which its nature is suited. Insufficient knowledge of these is the cause of the conflicting statements which are published respecting the same plant in isothermal sections.

The effects of drought are frequently mistaken for those of cold. Deprived of moisture a plant is deprived of food, and thus half starved; though lingering through the summer it succumbs to the severity of winter. Excessive richness as well as excessive poverty of soil may cause the death of plants during winter by inducing a superabundant exhaustive growth which they can neither mature nor support.

But we have trees and shrubs, herbaceous plants and annuals, that are adapted to every variety of soil and condition of weather, and it is a knowledge of such adaptation that enables some, let the season be what it may, to preserve their gardens in comparative beauty.

The present summer, the hottest and driest we have ever experienced, has wrought great mischief in those grounds wherein such relations have been entirely ignored, and only those who presume to believe that a liberal and prompt expenditure of money can be made fully as effectual in the reparation of damages as horticultural observation and study, will fail to be instructed by its lessons.

It is true the present season has been exceptional and severe droughts local, but it is just these exceptional seasons that we should provide against in the selection and distribution of our so-called hardy plants. Let extremes of heat or cold, wet or drought, occur but once in ten years, it suffices to kill or sadly disfigure the beautiful forms of many trees and shrubs that under our care have grown to full maturity, and that constitute, it may be, those very objects of our grounds to which we have become most attached. In many affairs of life we may be guided by rules—in this phase of horticulture we should be guided by exceptions.

While now we see plants green and vigorous growing in sandy soils or high dry situations, whether in private grounds, in woods, or fields, we may safely conclude that the same varieties are as well adapted to the highest driest parts of our own grounds, and that after cultivating them for years they will not in their mature beauty be destroyed by drought, either directly or by being so weakened as not to be able to endure the cold of the ensuing winter. So likewise, when we see plants suffering in such situations, we may be sure that they are not adapted to each other in any other locality. This is but one of the lessons of the drought; but it is well worth the learning, and requires but little inconvenience or effort.

To apply these remarks to floriculture, we have found that many plants that it has been deemed necessary to water daily during the dry hot weather of other summers, have fared just as well during the present drought without being watered at all. We may point out especially *Plumbago capensis*, that though placed in the upper tier of a rockwork exposed to the sun nearly all day and never watered, has bloomed more profusely than ever before, while the foliage is perfectly green and healthy. Had we watered this plant as in previous seasons, the impression could not be avoided that its preservation was due to the water and not to any special adaptation of the plant to the driest of situations. Thus we are enabled to add one of the most charming of plants to the scanty list of those which are perfectly adapted to rockeries.

The *Eucalyptus globulus*, seeds of which were sown last December 3rd, is now 3 feet high and of about the same breadth, with widely-spreading branches, and opposite, nearly sessile leaves that, in those two respects, recall the Honey-suckle. Though this has received no water, there is not one discoloured leaf upon our several specimens, and the glaucous bloom that covers the young wood and leaves gives it a most refreshing appearance. The new shoots are furrowed and sharply four-angled. These furrows and angles gradually disappear until the ripened wood is as smooth and round as a ring. The bluish-green bloom of the new shoots is readily rubbed off with the hand, and should it be moistened with perspiration, it instantly presents the appearance of being suffused in blood. No insect has disturbed our plants, and we should think that the *Eucalyptus globulus*, cut back from year

to year, would become a favourite among tender subtropical plants, particularly where the plot is located in a dry situation.

As enduring drought remarkably well, though worthy of general cultivation for other reasons, we call attention to *Plumbago Larpentæ*. This is an old hardy half-herbaceous shrub, which is as distinct from *P. capensis* as two plants of the same genus can be. Its habit is compact, leaves small, spatulate, and flowers of a deep violet in dense heads. The flowers are the size of the *Verbena* and, like them, salver-shaped. There is but one thing that mars its beauty—viz., the flowers do not open simultaneously, and they persist after their beauty has faded and form no very bright surrounding to those blooming after. Its hardness, compactness, endurance of drought, and possession of a colour with which our gardens are never surfeited, are, however, characteristics that may commend its use to all, if not for the showiest of our borders, at least for those parts most liable to suffer from drought.

Among Vines less commonly cultivated that thrive in dry places is the Mountain Fringe, *Adumia cirrhosa*. The leaflets of this Vine are peculiar, bearing no petiolar attachment and being every one of a different shape. Common in our western woods, where it is found mostly in wet places, a dry position is the last thought of. It is a biennial, and its growth the first season bears no resemblance to a Vine, but rather to a Fern, having thrice-pinnate leaves and variously lobed little leaflets. Beside *Plumbago capensis* in the rockery it flourishes finely.

All of us know of the Matrimony Vine (*Lycium vulgare* or *barbarum*), and many readers will exclaim, "We know enough of it!" It should, indeed, be excluded from companionship with all other plants on account of its spreading roots, which take possession of the ground and throw up suckers for an unwarrantable distance. But it is a gem in its place. Planted under the eaves of houses, at the base of old stumps and rocks, upon sandy banks, or in those out-of-the-way corners which it is desirable to fill with verdure that will require little or no care—nothing is better. A single specimen of this shrub, for it is not a Vine, grows in our own grounds close to a brick foundation, entirely exposed to the sun from morning till night, without having received one drop of water for three months or more. It is cut back every spring, so that with the bushy form thus forced—the drooping branches and its contrast of small and large leaves—so entirely is it the right plant in the right place, that from despising it as it was once grown among other things, we now prize the Matrimony Vine as all of us finally prize plants that fully respond to all that is asked of them.

A sickly plant, however rare or costly, is far from ornamental, and grounds which are planted without regard to adaptation of soil and situation will fail to realise the expectations of the most tasteful arrangement.

Taste alone may correctly point out where trees and shrubs should be planted, either as single specimens or in groups; where the flower borders and beds should be located; where the lawn should be unbroken in its velvety green; where vistas should exist to lend the charm of mystery and picturesqueness to all. But a knowledge of the conditions under which plants alone can mature their fulness of beauty is indispensable to the development and permanence of the design.

A part of this may be learned by an observance of the effects of droughts.—(*Rural New Yorker*.)

### PRESERVATION OF WOODWORK.

ALL country residents, and especially gardeners and farmers, have to expose woodwork in some form to alternate states of wetness and dryness. To preserve it as long as possible is of importance, and many processes have been recommended. We knew the posts of two field gates inserted at the same time. The ends of two were charred before being buried, the ends of the other two were tarred. The charred posts were still firm for years after the others had been renewed.

The *English Mechanic* states that in a paper communicated to a meeting of engineers of the "Verein Deutscher Eisenbahnverwaltungen," M. Fünk furnishes some data on the subject, which are of considerable practical interest.

"According to observations which were made partly on the Cologne-Minden line and partly on the Hanoverian State railways, pine sleepers impregnated with chloride of zinc required, after twenty-one years' use, an exchange to the extent of 31 per cent.; beech sleepers impregnated with creosote, after twenty-



two years' use, an exchange of 46 per cent.; oak sleepers impregnated with chloride of zinc, after the same period, an exchange of 20.7 per cent. In all the cases observed the conditions were very favourable, the bedding material being good and pure and perfectly permeable. Specimens cut from sleepers which after the times indicated still remained on the line, showed perfectly sound surfaces of cross section.

"Along with these results obtained on German railways with impregnated wooden sleepers, M. Huber communicates in an Austrian journal the results of observations made for a number of years back on the Kaiser Ferdinands Nordbahn in Austria. The amount of renewal necessary was: In unimpregnated oak sleepers, after twelve years' use, 74.48 per cent.; in oak sleepers impregnated with chloride of zinc, after seven years, 3.29 per cent.; in oak sleepers impregnated with tar-oil containing creosote, after six years, 0.09 per cent.; in pine sleepers impregnated with chloride of zinc, after seven years, 4.46 per cent.

"The impregnated pine sleepers were placed in 1869 at the stations of the Mährisch-Schlesischen Nordbahn. Since the years 1869-70 there have been laid on the Kaiser Ferdinands Nordbahn only oak sleepers, which were impregnated either with chloride of zinc or with tar-oil containing creosote."

### WIMBLEDON HOUSE.—No. 1.

THE RESIDENCE OF SIR HENRY W. PEEK, BART., M.P.

FEW public men have a higher reputation for diligence in business and for the active support given to every good work than Sir Henry Peek. His name is familiar to all who are interested in the social amelioration of the country, for there are few organisations for the public good which do not have the benefit of his patronage and assistance. As in general so also in local measures having a beneficial tendency Sir Henry Peek can, amid his parliamentary and other duties, find time to preside at meetings for the advancement of, and distribute prizes which are offered for the encouragement of cottage gardening, and he is ever ready to foster and promote a taste for those wholesome pursuits which are to be found in a garden however small it may be. Besides a disposition to support any measure having for its object the increase of knowledge on matters pertaining to gardening, he, with the aid of Lady Peek, is assiduous in inculcating lessons of humanity in the animal world.

As proof of Sir Henry's readiness to aid in the works mentioned may be cited his recent distribution of prizes on an extensive scale for cottage gardening on the Shaftesbury Park estate, where small gardens are numerous, and are managed with great taste; and, as the character of a man is perhaps best seen in small things, we may note also the privilege which Sir Henry affords to the gardeners of the district of meeting once a fortnight during the long winter evenings in the young men's rooms at his gardens, where the men not only have the advantage of profitable and congenial discussion, but are further generously supplied with an ample social meal to render their enjoyment complete. This act of kindness—which should be, and doubtless is, highly appreciated—dates not from yesterday, for the meetings have been established for some years, and from them has sprung the more extensive Gardeners' Society which has been frequently mentioned in these pages. The public Society has not been instituted to supplant the private gatherings, but, on the contrary, there is every probability of the latter being better attended than before, in consequence of the impetus that has been given by the larger meetings to the promotion of unity amongst gardeners and the discussion of subjects with which they are connected. The resuscitation of these useful meetings is in a great measure due to the energy of Sir Henry's head gardener, Mr. Ollerhead, who has zealously endeavoured to render them successful, so that they may in the fullest manner possible answer the purpose for which they were established.

Sir Henry Peek is also a patron of horticulture on an extensive scale and in its higher branches. When we find a gentleman expending £30,000 in the erection of glass structures, a gardener's cottage, young men's rooms, stabling, and other adjuncts of his estate which are under the control of the gardener, it is sufficient evidence that the practice of the art of gardening is not neglected. On that point, however, judgment shall not be deduced from inference, but we will look at things as they are and note the garden, its condition and management, and thus decide how far such are worthy of a liberal owner and the comparatively young manager now in charge. It may, how-

ever, be mentioned that if Mr. Ollerhead is young in years for such a position, his practice has been derived from good gardens in England and Scotland, and "four years at Trentham," if coupled with intelligence and activity, must always weigh heavily in the scale of a man's qualifications.

Wimbledon House—its grounds and gardens—have, it appears, long enjoyed the fostering care of owners having horticultural tastes and inclinations. This place is figured and described in London's "Villa Gardener," from which the following extract is taken:—"This estate, which once belonged to the celebrated Bond Hopkins, Esq., and was laid out for him about the middle of the last century, consists of about 100 acres of table land, slightly varied on the surface, not by undulations, bold swells, deep valleys, or precipitous declivities, but by unconnected hollows or large gullies—of little beauty in themselves, but capable of producing considerable effect when filled with water, as the principal one now is. The chief merit of the place as a suburban residence consists in its completeness, the whole lying compactly within a ring fence, and there being a most commodious mansion with complete domestic offices, a park, a farm (including a dairy and a poultry-yard), a kitchen garden, and a flower garden; the latter, perhaps, unrivalled in the neighbourhood of London for the number of species and varieties of herbaceous plants that it contains. Mrs. Marryatt (the successor of Mr. Hopkins, and the predecessor of the present owner) has long been an enthusiastic admirer of flowers, and especially of such as are sufficiently hardy to make a display in the flower garden. She also maintains a good collection of greenhouse and hothouse plants; and many of these, as well as hardy plants, have flowered at Wimbledon House for the first time in England. Among the more beautiful and remarkable greenhouse plants which have flowered for the first time at Wimbledon is the *Tasmania pinastipula*, one of the most elegant, and at the same time singular, of climbing shrubs." In addition to the plant above named may now be seen in the aquatic house the original plant of *Tabernaemontana coronaria*, which was introduced from the East Indies in 1770.

Mr. Bond Hopkins sold Wimbledon House to M<sup>rs</sup>. de Calonne, then a French political refugee. The estate was subsequently purchased by the Right Hon. Earl Gower, afterwards Marquis of Stafford. The Marquis sold it in 1798 to Sir Stephen Lushington. In 1810 it became the retreat of Louis Joseph de Bourbon Prince of Conde, who married while in England the Princess Dowager de Monaco, who died at Wimbledon in 1813. After writing the life of his illustrious ancestor, the great Conde, the Prince died in Paris in 1818, his son modestly refusing to take the title, as considering himself unworthy to succeed his father, "who so long commanded the French nobility in their glorious exertions to defend the cause of monarchy." In 1815 the estate became the property of Joseph Marryatt, Esq., who died in 1824. His widow Mrs. Marryatt, F.H.S., continued to reside here until 1854, and devoted much of her time and money to the formation and cultivation of her beautiful gardens, and in introducing new and rare trees and plants. After the death of Mrs. Marryatt (who was the mother of our celebrated novelist Capt. Marryatt), the estate was in Chancery for two years, when it was purchased by the present proprietor, who has not been less liberal in effecting improvements than his predecessors.

A lofty and substantial brick wall very nearly encircles the estate; it was a costly fence no doubt, but certainly it is a permanent one. Within the wall are large trees, notably Elms, which, however, have been denuded of their branches as a precaution against accidents. Other trees which are especially remarkable are Evergreen Oaks. With these the place abounds, many of them having attained to gigantic timber trees. There are also good examples of the English Oak, picturesque groves of Beeches, and venerable Cedars and Yews. The soil appears to be a light loam, and within 2 feet from the surface is gravel, the bed of which is many feet in thickness. In this soil the trees named have grown freely, and apparently will continue to do for years to come, for they are in perfect health.

The park is surrounded by an enjoyable walk, which is completely embowered in foliage, principally from the Evergreen Oaks. The undergrowth of these trees is principally of *Rhododendrons*, which grow luxuriantly, the dark foliage of these evergreens being relieved here and there by a variegated Holly. Across the walk at intervals are formed rough arches of masonry after the manner of ancient ruins. Through openings in the trees are afforded picturesque glimpses of hill and vale, water

and trees; and the visitor, instead of having his standpoint almost within cannon shot of London, may imagine himself as being a hundred miles distant from any "murky town." This marginal walk conducts us from the house to the deer park, a small enclosure stocked with handsome specimens of fleet and timid animals. In this enclosure is a Cork Tree (*Quercus suber*) 50 feet high, and a trunk girthing 9 feet.

From this park we reach the lake. At its end is an island on which, nestling amongst the trees, is an "old ruin," which the "guide," with an air of delicious nonchalance, suggested "might have had something to do with the monks," but after a glance at the arches, &c., he received a reply, "and it might not." It appears, however, that it was used as a Catholic chapel by the Prince of Conde. The dimensions of the ruin are 20 feet by 12 feet inside measure. The lake is also in a great measure artificial. It is about seven acres in extent, and is highly ornamental both by its form and surroundings and

the great variety of fancy waterfowls which adorn its surface. This lake has been formed by holding up the water in one of large gullies. The embankment is rather a formidable affair, exceeding 100 yards in length, and is of great substance. Its slope to the lower ground is very deep, and is planted with trees, and between these and the water is a broad velvety promenade of perfectly kept lawn. No part of the grounds is more attractive than this cool and secluded retreat. By the margin of this lake is a remarkable example of an Ivy-clad Oak. This tree, roughly girthed, measures 27 feet round its stem at 4 feet from the ground, and resembles a gigantic Ivy bush, for not only is every branch of the tree densely enveloped with Ivy, but it towers aloft far above the Oak in massive clusters. The Oak is so completely hidden that only two tiny sprays of it are to be seen, and these are perfectly healthy. In striking contrast to the dark drapery of this venerable monarch is a contiguous specimen of *Catalpa syriaca* with cheerful, large, light

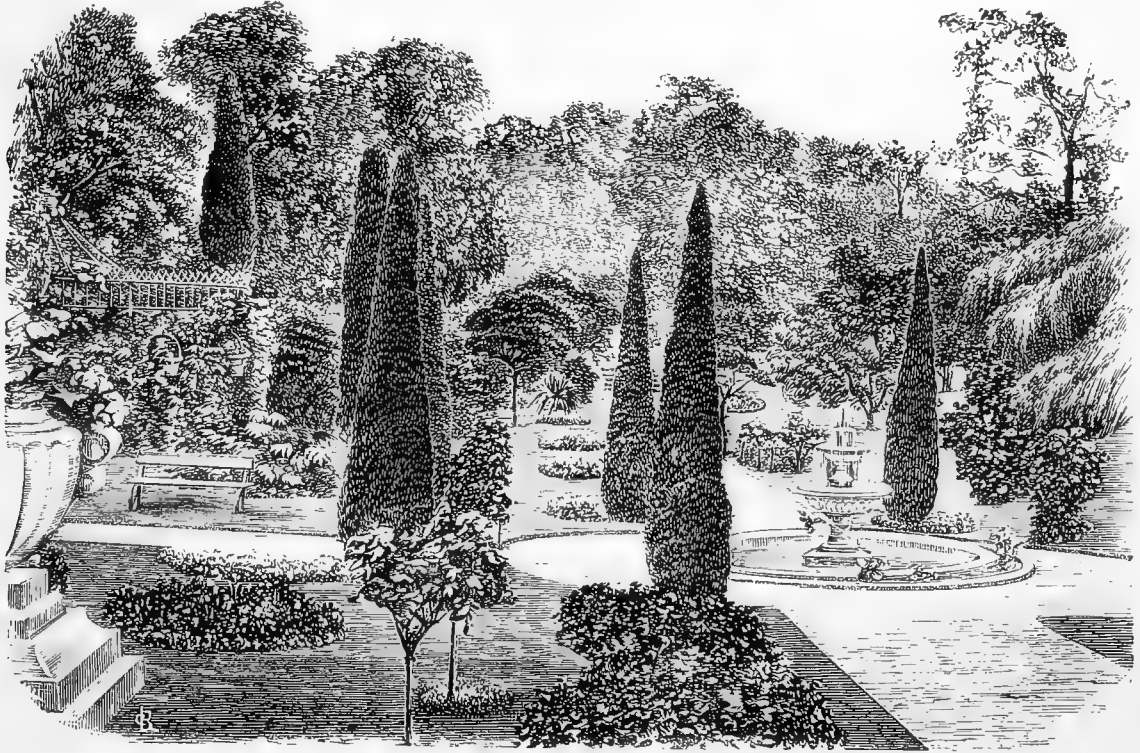


Fig. 36.—WIMBLEDON HOUSE—THE FLOWER GARDEN.

green foliage. This also is a large tree, and is rendered the more ornamental by its thousands of seed pods, almost exactly resembling those of *Vanilla aromatica*. The *Catalpa* is a noble tree, hardy, distinct, and attractive, and it is a little surprising that it is not more freely planted in pleasure grounds. The golden-leaved variety of it is very conspicuous; young plants may now be seen doing good service in Battersea Park.

Passing by other lakes and other islands we arrive at a grotto which the "guide" might well have suggested that it "might have had something to do with the elves and fairies." This is a small but wonderful work of art, and in its construction and ornamentation much patience, taste, and labour have been exercised. Tens of thousands of shells adorn its roof and clothe the stalactitic protuberances which descend from it. The sides are rugged and made to form miniature caverns, out of one of which a crocodile protrudes its ugly head. Mirrors are placed in corners to resemble water, and in the subdued light—for light is admitted only by the door—the effect produced is such as to startle the visitor seeing it for the first time, and to extort from him the spontaneous exclamation, "How very singular and beautiful it is!" It is worthy of note and inspection.

From this point we return homewards through a grove of Wellingtonias alternately planted with Evergreen Oaks, the latter having been raised from acorns gathered and sown by

Sir Henry Peek. The Wellingtonias are large and healthy specimens, and similarly fine are other Conifers in this grove, such as *Thujopsis borealis*, *Cupressus*, and *Biotas*. In all probability several of these handsome shrubs will be removed to Sir Henry Peek's new residence which is now being erected in Devonshire. We have now completed the circle of this ornamental park, all round which the walks, grass verges, and lawns are well kept, and arrive at the gardens.

The first department to notice is the flower garden. This is of considerable size, and is perfectly unlike the modern flower gardens which are laid out in the present day. There are no formal designs described on geometrical principles, no spar, no Box edging, no unbroken glare of colour, no sameness to tire, no crowding to incommode. This garden was originally formed by Mrs. Marryatt, and happily it has been preserved in its integrity, and has not been defaced by "improvements" destroying its original character. Slight additions and alterations have been made, but they have been made with good judgment and taste. The modern has been blended with the ancient, the present added to the past, but in such a manner as to be subservient to the original plan—if plan it is—and not overpowering it by a violent display of the floral fashion of the hour. No small moral courage would be requisite to form a flower garden after this style now-a-days, but where such a garden exists it would be little short of

sacrilege to destroy it, and the taste prompting any radical alteration would be taste gone mad. It is a most enjoyable garden—a lawn with trees, shrubs, and flowers, a garden where at all times there is something to attract, and most times from which a posy may be gathered—a “posy of sweet-smelling flowers,” which many flower gardens of the “latest fashion” cannot supply.

A long natural hollow appears to have been selected for this garden. It is bounded on the north side by a splendid range of glass structures and a broad terrace walk, and on the south by Rhododendrons and a corresponding walk. At the west is a wall covered with Ivy and climbers, and at its foot a border of herbaceous plants, and on the east is the park. A walk traverses the entire length of the garden along the centre of the hollow, and there is also a cross walk. In the centre of the garden is a fountain partly surrounded by handsome specimens of Irish Yews, and similar specimens are growing at intervals along both sides of the walks. Entering the garden by the long walk we pass a pair of statues—the Regent Murray and Jeannie Deans. In other parts of the grounds statues of the other characters immortalised in the Waverley Novels are appropriately placed. At some distance from and on each side of the long walk are Roses trained to flat hurdles, which were designed by Mr. Ollerhead and which answer their purpose admirably. The garden is also in a great part surrounded by a lofty festoon of climbing Roses. Other festoons of Roses there are on the lawn, in one place encircling Lady Peck's herbaceous garden—a circle with eight beds converging to the centre, which are planted with old-fashioned herbaceous and alpine plants. Another and a larger example of festooning is known as the Rosery, a temple-like arrangement of climbers with Roses trying to grow in the central bed. Roses cannot well flourish when thus covered and confined; never mind, the rosery is an “established institution” of the place, and is wisely preserved for its original purpose.

On the lawn, at irregular intervals, are trees, and shrubs, and bushes which are not usually met with in such a position. Conspicuous is a splendid example of the deciduous Cypress (*Taxodium distichum*), quite a timber tree, but extremely attractive by its light green pinnate foliage. This is sometimes called *Taxodium pinnatum*, or *Copressus disticha*. *T. pinnatum* is, however, a Mexican species, which is too tender for the English climate. *Taxodium distichum* is a very hardy and a highly ornamental tree, especially when it attains to the size of the Wimbledon specimen, which is 55 feet high, with a stem 10 feet in circumference. A deciduous Cypress is mentioned in Miller's “Gardeners' Dictionary,” which was published in 1724, as growing in the garden of Sir Abraham Junssens at Wimbledon, and as being then 30 feet in height and bearing cones. Sir Henry Peck's tree is evidently very old, but can scarcely be regarded as the tree referred to by Miller; it may be, however, the proceeds of a cone from that noteworthy specimen. Another very fine tree in this flower garden is the Twisted-leaved Willow (*Salix Babylonia crispata*), the Ring-leaved Willow. This is commonly regarded as a species under the name of *S. annularis*. This distinct variety was introduced to this country by a Mr. Vernon, a merchant at Aleppo, who afterwards retired to live at Twickenham, where the original tree was growing in 1749. This Willow is most distinct by its pendulous branchlets and convoluted foliage, and is highly ornamental. The tree in this garden is about the same height as the *Taxodium* referred to. Of lower stature, yet of large size, is *Magnolia conspicua*, and which is a splendid object in the twilight in spring, when its large white flowers appear in the distance as if floating in the air; near it is also a fine example of *M. glauca*, which is producing at the present time a few stray wax-like flowers. *Arbutus Andrachne* is also noticeable, a finer specimen being seldom met with. There is also a very old *Araucaria* divested of its lower branches, and cones of Yews “tipped with gold,” the golden variety having been grafted on the green. The Smoke, Gauze, or Wig Tree, *Rhus Cotinus*, is also represented by a large bush covered with panicles of feathery flower stalks. This distinct and ornamental deciduous shrub is not sufficiently planted. Noticeable also is an extraordinary specimen of *Cydonia japonica*. This is growing on the lawn in the form of a dense globular bush, which cannot be much less than 20 feet in diameter. Each spring it is laden with its brilliant blossoms, and then presents a gorgeous appearance. We pause also to admire a fine clump of *Cotoneaster microphylla* covered with berries; there are also some very old specimens of *Andromedas*. A bush of Ivy on the lawn, com-

mon though it may be, is attractive by its close shrub-like growth. There are also arcades of Ivy here and there of tree-like magnitude through which the visitors pass and also admire. A much less common shrub is also here, the *Comptonia asplenifolia*, sometimes called the Sweet Fern from the odour of its finely cut foliage. It belongs to the Myricaceæ or Sweet Gale family, and was named in honour of Bishop Compton, who was a great patron of horticulture. It is a North American deciduous shrub growing about 4 feet high, and is hardy, elegant, and sweet.

The above are a few of the trees and shrubs which adorn this fine old flower garden, and scattered about amongst them are large round beds of subtropical plants and flowers. There are beds of Maize, *Solanums*, *Cannas*, *Yuccas*, and such flowers as Cloves, *Delphiniums*, *Lirises*, *Petunias*, *Zinnias*, and even a bed of one of the Club Mosses, which Mr. Ollerhead states has been established by a better man than himself; for after trying all ways and periods he cannot successfully transplant it, which is somewhat unfortunate, as the hot summer has injured one portion of the bed. There is also a piece of water surrounded by rockwork and Ferns, and occupied by Water Lilies and small fancy waterfowl, and an alpine cone planted with *Cerastium*, &c., in one of the corners of the garden.

An arrangement such as described may be considered sombre, but this is obviated by a series of beds near the sides of the walks; the beds being occupied with the ordinary bedding-out plants, such as *Geraniums*, *Calceolarias*, *Coleuses*, *Centaureas*, &c., and their effect is enhanced by the bold background of the other occupants of the lawn. The *Calceolarias* have been splendid and grew luxuriantly during the hot weather. Previously to planting them the soil was removed to the depth of a foot, when a good layer of cow dung was put in and the soil placed over it. This sustained the plants and prevented the “disease” attacking them. Altogether the garden is sufficiently bright, and is particularly enjoyable by its varied attractions—a garden wherein one may wander day by day and always find something fresh, and at no time can it be considered as tame and unsightly.

But there is still a little more for those of modern tastes. At the sides of the southern terrace walk, which is divided from the flower garden proper by Rhododendrons, is a lawn, and on this lawn are a few large raised beds planted in the carpet-pattern style. These are well filled, and the designs are pleasing; yet good though they are of their kind, they look puny in comparison with the freer, bolder, easier mode of decoration beyond the shrubs. On this terrace is a rustic seat canopied with *Sophora japonica pendula*, and from this seat the view across the flower garden—the fine trees, the towering Yews, the glimpses of flowers, with the noble range of houses with a central dome as the boundary—is strikingly beautiful.

From the south-west corner of the flower garden an avenue of Elms shows the way to the manseion; a portion of this avenue is seen in the accompanying engraving, which gives a characteristic view of this excellent and ably-managed flower garden.—J. W.

### BRAZILIAN FLOWERS.

MR. T. W. HINCHLIFF, F.R.G.S., President of the Alpine Club, has recently published a “Narrative of Wanderings Around the World,” in which is given a marvellous account of the floral treasures discovered in the wilds of Brazil. The gentleman is an ardent botanist, and during the three-months stay at Palmeiras made a large collection of interesting and beautiful plants, many of which were new to science. He speaks in terms of excusable enthusiasm of “*Fuchsias* 50 or 60 feet in height, blooming from top to bottom;” of large bushes of *Abutilon venosum*, “hanging its orange bells with crimson streaks over the placid waters, close to the huge *Daturas* with their hundreds of white trumpet-shaped and sweet-scented blossoms, some of which I have found to be 16 inches in length.”

Within a day's walk from Palmeiras Mr. Hinchliff and his party gathered 250 species of Ferns, on every excursion discovering new ones to add to the list. Among them were two species of the *Lygodium*, or climbing Fern, and the rare *Hemidictyon marginatum*, “with pale-green fronds, 11 feet high, and broad pinnae, as delicate as silver paper.” In the forests each tree supports a vast variety of parasitical plants. “Orchids and Ferns; huge *Arums* with shield-like leaves, large enough to cover a man; brilliant red and yellow *Bromelias* and *Tillandsias*; epiphytes and parasites of all de-

scriptions; rope plants, creepers, trailers, climbers, mosses—all live together like a happy family far beyond the reach of man. . . . I have even seen a tall white *Amaryllis* in full blossom growing on the bough of a *Jiquitiba* nearly 100 feet above the ground." Mr. Hinchliff was told by a French botanist that a fortnight could be occupied in studying the plants on one of these gigantic trees which fall to the earth from time to time.

In the gardens of Brazil Mr. Hinchliff saw *Camellias* 15 feet high, and large enough to climb into to pluck the topmost blossoms; and *Poinsettias*, "not in the little plants which often ornament our London dinner-tables, but grown into very large bushes, on which I have found the crimson star of their floral bracts to be 2 feet in diameter." A profusion of other cultivated flowers growing in extraordinary luxuriance are mentioned by the author.

### NOTES AND GLEANINGS.

A REPETITION of the experiment of last year of an INTERNATIONAL POTATO EXHIBITION will be held in the Alexandra Palace, Muswell Hill, on Thursday and Friday, September 28th and 29th. The prizes offered amount to upwards of £140, the result of the subscriptions of the promoters, aided by a grant of £40 from the Alexandra Palace Company. The entries promise a fine display, and it is expected that fully three thousand dishes will be staged.

— LAST year we were highly favoured with FRUIT SHOWS, but this year we have now little to expect. The "International" last year at the Alexandra Palace was an excellent exhibition, and very good was the show at the Crystal Palace, while the display at South Kensington was extensive and superior. This year no show is announced at the Alexandra Palace; the schedule of the Crystal Palace show is a small one; the Royal Horticultural Society's show has collapsed, and in consequence the fruit-growing public was looking forward to the October display at the Royal Aquarium, but which is now abrogated. An announcement in our advertising columns conveys this information, which will certainly be unwelcome news to many, and a letter from the horticultural superintendent regrets it—a regret which not only many intending exhibitors will join, but which those who are interested in fruit-growing will share. We can only hope for better things next year—more fruit to show, and better facilities and encouragement for showing it.

— WE learn that the POTATO DISEASE is arriving in London, and in a form that should put purchasers on their guard, and prevent them making hasty purchases of cheap lots of tubers. It is well known by those having experience with large quantities of Potatoes, that tubers which appear sound when taken up will in the course of a week, more or less, often show the disease unmistakably, especially if they are stored in large quantities. Such is the case at present, and hurried consignments and quick sales may turn out anything but good bargains to the purchasers. The comparative lightness of the Potato crops is a sufficient guarantee that sales at cheap rates will not be forced if the produce is known to be sound and of good keeping quality. Tubers which have been hurried into railway trucks and heaped at the depôts in large quantities must be regarded with suspicion if offered at anything less than the full market value of sound produce. We are informed of more than one cheap bargain which has turned out dear to the purchaser, for in ten days after the purchase many of the tubers have been found to be affected with the disease, although they were apparently sound at the time of purchase. We have before known the disease to partake of the same peculiar and delusive character, and to a greater degree than we trust is the case at the present time.

— A VISITOR writes as follows on the planting-out of *ADIANTUM FARLEYENSE*:—"At Shipley Hall, the residence of A. M. Mundy, Esq., in Derbyshire, there is a large intermediate house planted as a rustic or natural fernery. There are scores of varieties of all the finest Ferns growing luxuriantly in it, but the most effective of all are the plants here and there of *Adiantum farleyense*. This variety is planted-out like the rest, and its large beautiful green fronds drooping over the miniature ledges of rock produce an effect which I never saw equalled with any other Fern."

— ONE of the most attractive shrubs recently introduced is *WEIGELA AMABILIS LOOYMANSI AUREA*. It is so named after Messrs. Looymans & Sons, nurserymen, Oudenbosch, Holland.

The flowers are crimson and white and attractive, but the foliage entitles it to its distinctive name "golden," for the leaves are totally yellow. The colour is stated to be but slightly altered by exposure to either sunshine or shade. A coloured drawing of the leaves and flowers is in the "Revue l'Horticulture Belge" for August.

— THE twenty-first annual EXHIBITION OF FRUIT AND CUT FLOWERS commences at the Crystal Palace to-day and continues throughout the week. Considering that it is likely to be the only fruit show held in London and its vicinity during the present autumn, the limited nature of the schedule and the small amounts offered as prizes are matters which will be generally regretted. The highest prize is £5 for ten dishes of fruit, £3 being offered as the premier award for a collection of six dishes. Other prizes in the fruit classes vary from £1 10s. to 5s. Small prizes are offered for cut flowers, and there are five classes for cottagers' vegetables. A "crush" is not anticipated.

— FROM many correspondents we have accounts of the extreme RAPIDITY OF GROWTH OF MANY AUTUMN CROPS, such as Coleworts, Spinach, Cauliflowers, Turnips, &c.; Celery, Brussels Sprouts, and the various kinds of Kale are also improving in a very satisfactory manner, and if the autumn should continue lengthy and the weather mild the scarcity of a supply of vegetables during the winter is not likely to be so great as was at one time anticipated. Weeds also grow apace, and it is as well to bear in mind that the means of checking their growth will also at the same time further the activity of the useful crops, which in the absence of hoeings and a regular moving of the surface of the soil, are deprived of much support. That vegetables can be cheap is, we fear, impossible, yet by good cultural attention the supply in most gardens will, we trust, be equal to the demand of the owners and their cooks. Dewy nights, manure water, and surface-stirrings work wonders in improving the autumn crops and preventing a scarcity of vegetables.

— WE have again visited Cleveland House to note the lasting qualities of the CARPET BEDDING which is there carried out in such perfection by Mr. Legg. Hundreds of visitors have been to criticise and admire, for none that we can hear of have been disappointed. The few who have the opportunity of seeing these beds and who have not done so, have yet time to take a lesson. If they cannot see the beds in their zenith of beauty, they may see carpet bedding as probably they have never seen it before; and if there are some who cannot admire the "style," they will yet admit the skill which is evidenced in the arrangement and finish of the beds. The gardens, we may remind our readers, are open on the afternoons of Tuesdays and Fridays, and unless frosts occur the beds will remain gay throughout the present month. They are decidedly more lasting in beauty than are beds of flowers, for while the *Geraniums*, &c., are now uninviting, the carpet beds are highly attractive. In the houses, too, there are a few plants worth looking at. Nowhere can finer, if as fine, *Crotons* be seen, and *Dipladenia Brearleyana* has now fifty flowers expanded, some of them being of a rich crimson colour and of the size and texture of *Allamandas*. This, the finest of all *Dipladenias*, was introduced by Mr. Bull, and no one has grown it better than Mr. Legg. In the stove the *Nepenthes* are attractive, one plant of *N. Rafflesiana* having nearly forty pitchers and a number of others showing. In the vineries the first crop of *Muscat of Alexandras* averages 15 to 20 lbs. per rod; the bunches are well filled, but the berries are rather small, the crop being fully too heavy. All the canes will be cut-down to the base of the rafters, others of remarkable growth being trained between them for the next year's supply. It remains to be seen how the heavy crop of this year will affect the growth of the Vines next year after the rods have been cut down. One Vine is cropped with a vengeance, it showed ninety bunches, and fifty were allowed to remain, but the Grapes are small.

— A CORRESPONDENT writes on the scarcity of TEA-SCENTED ROSES which has been recently alluded to, that the quickest mode of propagating them is to strike cuttings of the young wood in heat in spring, after the manner of striking *Verbenas*, subsequently hardening the Roses off and planting them in good soil, and in the following year dwarf flowering plants are produced of the best quality. Tea Roses, he adds, "may be thus increased by thousands and the scarcity be averted." While admitting the usefulness of the above hint, we do not suppose that the scarcity of Tea Roses is due to failures in



propagation so much as to the continual losses occurring by severe weather after the plants have become established.

— A WEEK or two ago we referred to some exceedingly fine COCKSCOMBS which had been grown by Mr. Hawes, gardener to Mrs. Rhodes, Henerton, near Henley-on-Thames. The heads were stated to measure from 20 to 30 inches in diameter. We are informed that some of the "combs" exceed the last-mentioned size, the largest of them being 31½ inches across. This is the largest size which we remember to have seen recorded. The colour of these heads we are also informed is extremely rich.

— A GARDENER, writing from Lincolnshire, states that amongst a large number of varieties of Potatoes which he has had growing side by side, the AMERICAN BREADFRUIT has proved the best both in respect of cropping and quality. The Rector of Woodstock is also found to be exceedingly good; but the palm of supremacy is awarded to Breadfruit. American Potatoes are unusually good this year, the hot season having suited them. An exceptional season and a specially favoured garden are not sufficient to test the merits of a Potato; a variety to be of real worth must be good over an average of seasons and in soils of various characters. We have known Early Rose, for instance, to be of splendid quality, while produce from the same stock of seed and growing in a different soil has been quite uneatable. It will be well if the American varieties are becoming acclimatised to England, for there is no question as to the superior cropping qualities of some of them, and of the handsome appearance of their tubers.

— A CALIFORNIAN botanist has sent to the *Rural Press* an account of the results of a careful measurement of the famous BIG TREES OF CALIFORNIA. The "Father of the Forest" has been said to have sprung from the earth soon after the Deluge, but the rings in his shattered trunk show that his full age at base is probably 1500 years. His alleged 40 feet diameter proves to be only 18 feet, measured at 6 feet from the roots. This correspondent adds—"One oft-repeated story is true, however, that of a passage through a part of his body large enough to admit horsemen. This passage, burnt out of his heart, commences at a point 66 feet from the roots, and extends 120 feet, coming out where was once a knot-hole, now enlarged by relic-seekers to a wide doorway. I saw several ladies ride horses of medium size through this wooden tunnel, and one day while passing, riding one of my horses and leading the other packed with bulky specimens, I turned into the cavity and rode safely through. The ceiling overhead is 4 feet to 6 feet thick, so the grand promenade for visitors above is perfectly safe." He mentions another monster tree, the stump of which he measured with his tape-line, "held at the other end by a Puritan master builder from Boston," and the longest diameter, including bark, at 5 feet from the base, was found to exceed 27 feet. He says also—"The South Park Grove contains about five hundred trees, some of them of the largest class. One, the home of 'Trapper Smith,' is a vast swollen trunk at the base, 90 feet in circuit and 30 feet in diameter. The 'Livery Stable,' which has received twenty-two horses at a time into its hollow base, is 84 feet in circuit. A fallen tree is 15 feet in diameter 20 feet from the roots. A cavity is burnt in it sufficient to comfortably shelter twenty-five or thirty horses, or to afford the passage of a Concord coach and its four-horse team for over 200 feet. These dimensions do not materially differ from some published statements, but counts and estimates of the rings reveal only 1200 to 1500 in number. Other groves visited afforded corroborative evidence that, though the dimensions, being easily determined, are often given accurately, the age has been generally grossly exaggerated."

— TO CRYSTALLISE GRASSES.—The long feathery Grasses are best for this purpose. They must be thoroughly dry, formed in the desired shape, and fastened securely before being put in the bath. To make the solution, take 1 lb. of the best alum, pound it quite fine, and dissolve it in a quart of clear water over a slow fire, but do not let it boil. Take a deep jar and suspend the bouquet in it by a string from a stick laid across the jar. When the solution is milkwarm pour it over the Grasses, cover it up, and set it away for twenty-four hours. Then take them out carefully, and let them hang several hours in the sun till all the water is drained away. Then set them away, and do not move them for two or three days, when they will be entirely dry. If dried rapidly near the fire they will look as if powdered with snow. For blue crystals use a saturated solution of sulphate of copper in

hot water. For yellow use the yellow prussiate of potash; for ruby use the red prussiate of potash. These crystallised bouquets should be kept under glass shades or their beauty will soon fade.

— THE importance of planting TIMBER TREES has recently engaged public attention, not only in England, but in America, and for the encouragement of tree planting in Canada the *Toronto Globe* says—"The importance of replacing by fresh efforts extinct forests, or those which are in process of gradual removal, is receiving official consideration. The act of the Dominion parliament passed last session grants an additional quarter section, on payment of a trifling fee, to every settler on Dominion lands who plants thirty-two acres in successive annual instalments." In England also the systematic planting and intelligent management of plantations would be of great public benefit.

## ORNAMENTAL AND USEFUL TREE-PLANTING.

No. 6.

FOR ornament and eye-service we cannot overlook the Cyresses, Thujas, and Junipers, though British experience of them as timber is absolutely nil. The traditions of the growth, durability, and soundness of the upright Cypress (*Cupressus sempervirens*) in its southern home are founded on its having had a soil and climate less humid and drier than our own, where after three centuries of acclimatisation it does not reach half the height it attains in Italy, and is still chiefly valued as a fastigate tree, of kindred merits with the Lombardy Poplar. Hardier and kinder with us is the glaucous C. Lawsoniana, a hardy, rapid, graceful grower, which deserves Mongredien's praise, as "one of the most beautiful trees of a beautiful tribe." Its burden of pea-sized cones, which have a glaucous bloom when young, enhances the beauty of its foliage and graceful aspiring habit, in which last feature it differs from a somewhat earlier importation from the same country (California)—viz., C. macrocarpa, which is rather horizontal than vertical, and is apt to suffer from the lodgment of snow on its brittle rival leaders. Still C. macrocarpa is worth a place for its grass-green foliage, in which, as in other points, it is a greater contrast to Lawson's Cypress than the hardy Cypress from Nootka Sound. (C. macrocarpa was introduced in 1847, Nutkaensis in 1850, and Lawsoniana in 1852. —Mongredien, pp. 79–81.) Of the Thujas, all of which are hardy North Americans, the most graceful, compact and well-clothed is T. Menziesii or Lobbii, though Thuja gigantea is very distinct in its flat glossy branchlets. Our last special word must be devoted to the Sequoias or Redwoods, in which genus the S. sempervirens, a feathery, airy, and Fir-like Californian giant, introduced to this country in 1843, deserves more notice than the prominence and pretensions of its sister S. gigantea (more familiarly known as the Wellingtonia) allow it to enjoy. Its rapid growth (in its own country to the height of 300 feet) is often with us retarded by the loss of its leading shoots, but in a sheltered yet airy site, with a deep and porous soil of average quality, it should prove a valuable pyramidal tree. The specimen of it at Kew is a little over 40 feet; but at Whitfield Park, in Herefordshire, a group planted in 1851 were 45 feet high in 1868, at which time they were growing at least 3 feet in a year. Of shining dark green foliage and red-barked, their aspect is very striking, and their growth in moderate shelter is far more rapid than that of the Wellingtonia or the Larch. The frosts and the west winds are the Sequoia's chief peril. But the Sequoia sempervirens cannot expect to hold its own in comparison with a tree of which the traveller says that "if it were set by itself in a plain it would show like the Eddystone lighthouse." The so-called Wellingtonia, or Mammoth Tree as the Americans have dubbed it, was discovered in 1850 in the grove of Calaveras in Upper California; since which it has been found in seven or eight other groups in the groves of the Sierra Nevada. In one of these, the Mariposa group, many trees are 90 feet in girth and 300 feet in height; whilst a broken specimen in the Calaveras Grove (18 feet in diameter at the point of fracture, 300 feet from the ground), is calculated to have stood 450 feet high in its full growth. By counting the concentric rings it is reckoned to be 1100 years old: and it may be that our remote descendants may see veritable Mammoth Trees of marvellous age and stature in this country to which it was introduced by Mr. W. Lobb in 1852, and in which it is quite hardy, though a little apt to get its glaucous-green foliage embrowned by severe winters. By common consent no English park or pleasure of any size allows itself to be

without it; and we learn from the "Heatherside Manual" that there is an avenue of Wellingtonias upwards of a mile in length, with each tree healthy and vigorous, at the Company's nurseries at Bagshot.

The voids best filled with what Mason in his "English Garden" (ii., 175) designates as "all the stately progeny of Pines," the soils and situations they affect, and other such-like information, an amateur planter must, after all, ascertain in those visits to his sylvan nurseries which, if he be in earnest, will be no more intermittent than a tender parent's interest in his living offspring. One thing is certain, he must not "coddle" them. Books and practice alike enforce that Conifers only need to be high and dry in a pure air, and being anything but gross feeders, enjoy their natural health without asking for a rich soil. But it is interesting, in connection with this, to note the facts relative to the causes of Dropmore's success as a home of Conifers, and to see how far elsewhere kindred causes are leading to like results. The natural soil at Dropmore was poor and barren, at all events in that portion of the demesne with which we are concerned. It owes its transformation and wonderful tree-growths to the care of one man, its "genius loci" in the best of senses, Mr. Frost. From the time, half a century ago, when he received commission from Lord Grenville to "make his desert smile," he has never failed to bestow special pains on preparing stations for the Conifers before planting, and, after they have been planted, on maintaining a system of surface-dressing every autumn. However liberal the additional food annually bestowed, it is found "that the plants root right into it," and so teach a lesson to planters generally of the practical utilisation of road-scrappings, which make a capital surface-dressing, and which, nevertheless, the road surveyors not seldom find it hard to get carted from the roadsides. No one who has visited Dropmore under good Mr. Frost's intelligent escort can miss the clue to successful Conifer-growing contained in his two precautions; and we seem to see in the instance of Mr. Bassett's Pinetum and Plantations, a mile to the north of Leighton Buzzard, Beds, a similar though not identical process in the utilisation of waste and sandy ground. The subsoil there is, no doubt, richer; but the surface soil is a thin mixture of sand and vegetable matter, which has to be trenched two spits deep. The mode of planting specimen Conifers here is quite novel, and as follows: "When it is determined where a permanent specimen is to be placed, the ordinary trees of the plantation are cleared away, the ground is trenched 20 inches deep, and formed into an elevated circular platform 1 foot higher than the surrounding surface, with a slight rim, a little elevated to prevent the rain which falls on the surface from running off, and in diameter according to the vigour or nature of the ground to be planted. A platform 6 feet across is sufficient at first for the moderate-growing kinds; but for the more vigorous and robust-growing kinds a table of 10 feet is requisite, leaving the trench open round the outside to receive the fallen leaves; afterwards, as the roots are found to reach the outside, which generally takes place in from two to three years, another addition is made of from 3 to 4 feet all round." If in this case the *modus operandi* is different to that at Dropmore, it is because at the latter the subsoil is less available; the trenching, the elevation, and the addition to the platform from time to time, are seemingly applications of one and the same principle.

It remains to be considered, as a practical conclusion of the above survey of our arboricultural taste and triumphs, whether more might not be done, both publicly and privately, to extend, popularise, and turn to wider national account so valuable a possession. If, as was said in the outset, trees are a special passion with Englishmen, the future of our woodlands and forests demands that an interest in their culture and conservation should be spread far and wide among our countrymen, and rise superior to utilitarian calculations or the selfish pleadings of private interest. To such an end nothing could be more conducive than the opening of private and public parks, pineta, and ornamental plantations, to the view of the working class, under proper limits and restrictions, and a collateral resort to lectures by competent persons on the subject of their contents and products. As education becomes more widely diffused, it is not unreasonable to hope that the number of artisans and labourers will increase who will feel a quickened interest in the varieties and distinctions of deciduous and evergreen trees, which many of them already know in part; and such an interest would be cheaply fostered were every proprietor of rare and diverse tree collections to have his specimens legibly labelled, as is done so well at Victoria Park,

Bath, and in other public parks we need not mention. A diffusion of knowledge of trees and shrubs so simply facilitated might not only substitute an intelligent recreation for the grovelling pastimes which disgrace too many of our operatives, but might also lead, in their measure and within their means, to the embellishment and more cherishing of their homes. It would have the advantage of enlisting conservators for the arboreta and pineta of their betters; and the problem would not be so hard of solution, how far it is safe to remove the railings and fences of urban parks and gardens. The greatest possible credit is due to the proprietor of the Plantation near Leighton Buzzard, above referred to, for having had sufficient confidence in the wayfaring public to plant that part of his estate through which the high-road runs, for a considerable distance, with corresponding pairs on either side of Picea nobilis, grandis, amabilis, magnifica, Lowiana, Nordmanniana, and Pissapo, as well as of the Wellingtonia and Thuja gigantea. This is one of the class of cases in which familiarity is not likely to breed contempt, but will rather school the eye, as it scans the turf lawn, to

"Expect that harmony of light and shade  
Which foliage only gives;"

and towards the fall to hail

"A canvas, when touched by Autumn's hand  
Shall gleam with dusky gold or russet rays."

And so might a more compact phalanx be organised to preserve the rights immemorial, which the Englishman inherits, to the New Forest, and Epping, and Dean, and the rest. "We talk," says Mr. Wyse, in his charming history of the first of these, "about the duty of reclaiming waste lands, and making corn spring up where none before grew. But it is often as much a duty to leave them alone. Land has higher and nobler offices to perform than to support houses or grow corn; to nourish not so much the body as the mind of man; to gladden the eye with its loveliness, and to brace his soul with that strength which is alone to be gained in the solitude of the moors and the woods."—"The New Forest; its History and its Scenery," page 48). Another result might possibly be one which would recommend itself to the advocates of retrenchment. Were a popular wind to set strong and steadfast in the direction of practical and profitable arboriculture, there would be no reason why, as now, we should have to send our candidates for appointments in the Indian Forests department to perfect their arboricultural education in Germany at the cost of ratepayers whose boast it is to have so many royal forests and national woodlands, not likely, it would seem from recent decisions, to run further risk of being disafforested and turned to private and selfish use. In France some progress has, we believe, already been made in establishing a college of arboriculture and forestry, at the instance of M. Baltet, the clever author of a volume on "Grafting and Budding." The school of Nancy, and that at Tharand in Germany, might at any rate provoke this country to a peaceful rivalry. Had we space we might notice how ably this project has been broached in the second chapter of the "Forester," a work to which, along with those of Grigor, Pridaux Selby, and Mongredien, we have been greatly indebted in the foregoing remarks. But in earnest matter-of-fact England a hobby retains its favour and prestige all the more permanently if it combines advantage and utility with more æsthetic and sensuous attractions. We have endeavoured to show how far this combination has been achieved, and how much farther it may yet be achieved, in the extension of the sciences of arboriculture; and the labour will not have been vain if it help in anywise to stimulate a redoubled zeal in planters, great and small, public and private, and such a fashion for planting both deciduous and coniferous trees as may wax stronger and more deeply-rooted continually,

"till Albion smile  
One ample theatre of sylvan grace."

—(Quarterly Review.)

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

We have found it necessary to keep the hoe at work amongst the young Strawberry plants. Owing to continual showers weeds on freshly dug ground are very difficult to destroy, and running the hoe through them seems only to transplant them from one place to another. When the weeds are numerous and large it is better to rake them off and burn them, and then run the hoe through the ground a few days after. All freshly dug

ground should be hoed as soon as weeds appear, whether the ground is planted or not.

Those intending to plant young trees this season should have the ground prepared at once if it is not already done. The principal operation is the trenching of the soil; it is quite necessary that this should be done, and if the ground is poor some decayed stable manure should be added. If the soil will allow of it, it ought to be trenched to the depth of 2 feet, and the manure ought to be well incorporated with it.

We are now gathering the principal crop of Apples and Pears. A much larger proportion of Apples are attacked by the boring maggot than usual. This in conjunction with the scant crop causes us to be very careful of those fruits that are sound. The fruit is gathered very carefully and placed in baskets, whence it is conveyed at once to the fruit-room and laid out on the shelves carefully by hand. We have gathered so far of Apples—Kerry Pippin, Ribston Pippin, Orange Pippin, Hawthornden, Pomona, Emperor Alexander, and, of course, all the earlier varieties. Of Pears—Fondante d'Automne and Louise Bonne of Jersey have been gathered. Williams' Bon Chrétien and Beurré d'Amanlis are now in use. Madame Treyve is also very nearly ripe.

Intending planters should note the following Apples as being adapted for small gardens—Betty Geeson, Braddick's Nonpareil, Cellini, Court-Pendu-Plat, Cox's Orange Pippin, Cox's Pomona, Early Harvest, Emperor Alexander, Golden Reinette, Golden Pippin, Hawthornden, Irish Peach, Kerry Pippin, Keswick Codlin, Lodgemore Nonpareil, Mannington's Pearmain, Norfolk Bearer, Scarlet Nonpareil, Sturmer Pippin. Of Pears—Bergamotte Esperen, Beurré d'Amanlis, Beurré d'Arenberg, Summer Beurré d'Arenberg, Beurré Bachelier, Beurré Giffard, Beurré Hardy, Beurré Superfin, Doyenné du Comice, Durondeau, Fondante d'Automne, Glou Morceau, Jargonelle, Joséphine de Malines, Louise Bonne of Jersey, Madame Treyve, Maréchal de Cour, Marie Louise, Seckle, Souvenir du Congrès, Summer Doyenné, Williams' Bon Chrétien, Winter Nelis, and Zéphirin Grégoire. It is now time to select fruit trees for planting. The best way is to go to the nursery and have them marked and sent when they are ready. If it is not possible to do this the order should be sent in good time, the nurserymen make it a rule to pick out the best trees first.

#### MUSHROOM HOUSE.

If the material has not been prepared no time ought to be lost in doing so. Stable manure is usually the staple material for making the beds; but if this is not plentiful, and cow manure can be obtained, two parts of stable to one of cow manure is well adapted for the purpose. One objection to cow manure is the difficulty of getting the material sufficiently dry. The best way is to throw it together in a ridge in a dry airy shed, or it may be spread out at a uniform thickness of 10 inches or a foot; this prevents it from becoming overheated, and the manure will dry quicker this way than any other. It ought to be turned over loosely every day. When pretty well dried the whole may be thrown up into a ridge to pass off the rank steam and heat. A little very dry turfy loam mixed with it will be an advantage, as it reduces the heat and moisture. The Mushroom house ought to be thoroughly cleaned out now to eradicate all insect pests. The old manure of the beds is useful in every garden, being available for potting purposes; and it is also valuable for mulching tender plants through the winter; it is further excellent for placing over the surface of Strawberry beds or fruit borders of any description. After all the manure has been removed from the beds the walls should be syringed and watered with boiling water. Woodlice and all other pests will be dislodged with this treatment.

#### VINERIES.

The Vines in the early houses have been pruned, and we are busy preparing for forcing. Perfect cleanliness is absolutely necessary to destroy the red spiders that hibernate under the loose bark. To banish the red spider all the loose bark is removed, the rods are then washed clean with a sponge and soapy water, and before they become dry they are painted over with the usual mixture; the principal part of it is flowers of sulphur. This should be mixed with soapy water to form a thin paste; a little soot and tobacco water should be added to it. This ought to be applied to the rods with a stiffish brush, working it well into the cracks. We also remove the surface soil from the inside borders to the depth of 2 or 3 inches, and replace it with fresh loam and rich manure. The walls are washed with lime water, and the rafters, sashbars, and glass are also made clean. It adds greatly to the clean appearance of the house to paint the hot-water pipes at this time. This ought to be done with lampblack and boiled oil when they are hot. The points of the Vines should be bent down to ensure their breaking regularly when they start into growth. The earlier the Vines are started, so much more is the chance of their breaking irregularly.

At this season there is much danger of the berries decaying in late vineries where the bunches have not been well thinned. When it is intended the Grapes should hang until the new year, the berries ought to be well thinned out. Any crowding, so that

the berries press firmly against each other, is a great mistake. One berry that has begun to decay, if it is not removed at once, will speedily destroy a whole bunch. No damp should be allowed in the house where the Grapes are. If it is necessary to fill the house with plants, then it is impossible to do the Grapes justice. We have found it necessary in both houses to apply artificial heat to ripen the Grapes.

#### PEACH HOUSE.

The trees in both early and late houses are now at rest, and the ventilators are open night and day. As soon as the leaves are removed from the early house what little pruning is needed should be done forthwith. There is generally some of the young wood that has grown too strongly; this ought to be removed, as it is seldom furnished with fruit buds, nor does it produce fruitful wood next season. Moderately strong young wood is the best. The inexperienced must be cautioned not to shorten the young wood unless it is possible to cut back to a triple bud. When three buds are together the centre bud is invariably a wood bud. If the summer treatment has been followed out according to previous instructions there will not be much pruning required.

Peach trees under glass are not unfrequently infested with brown scale, and this can only be effectually removed by hand-washing with soapy water. After having done this the trees may be washed with a similar mixture to that recommended for Vines, but it ought not to be quite so strong in soft soap and tobacco water. A mixture that would cause the blossom buds on Peach trees to drop would not in the least injure Vines.

The borders must not be allowed to become dry—that is, so dry that the fibrous roots are injured. If this happens the blossom buds might drop off in a mysterious manner, or blossoms would fall instead of setting.

#### FLOWER GARDEN.

We have been busy during the past week in this department, and there is plenty to do in the week to come. Cuttings of zonal Pelargoniums that were put in some few weeks ago have rooted very well on a sunny border. Now we are putting in cuttings of Verbenas, Ageratums, Heliotropes, and, in fact, every tender plant that is increased by cuttings, except Calceolarias, and a month hence will be sufficiently early to put them in. We have placed the boxes and pots containing the cuttings in a frame where there is a very little bottom heat. The frame is kept rather close and is shaded from bright sun. We have also taken up and potted all the plants we require of the tricolor Pelargoniums; all the older leaves were removed and the soil shaken from the roots so that the plants might be placed in small pots.

We have prepared ground by trenching it for Pinks and Tulips. We trench it 2 feet deep, placing a good layer of manure at the bottom of the trench, and another from 6 to 9 inches below the surface of the ground. The Pinks will be planted out at once. We have been potting-off Carnations and Picotees. They might have been done a week or two earlier, but experience has shown us that it is not desirable to pot them before the end of September, as the losses are greater when potting is done so early. The strongest plants are potted two in a 48-sized pot, and the smaller in large and small 60's. The compost used is two parts turfy loam, one of leaf soil, and one of sand. The pots are plunged in cocoa-nut fibre refuse, placed in a frame, and kept close for a few days.

Auricles in frames have been looked over, the decayed leaves picked off, and the plants cleared from green fly with a small camel's-hair brush. The bedding plants have made a second growth after the drought; and as Hybrid Perpetual Roses are making the autumn bloom, with a little attention the garden may be made very enjoyable if the weather continues fine.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

H. Merryweather, Southwell, Notts.—*Catalogue of Roses*.  
T. Bunyard & Sons, Maidstone.—*Catalogue of Dutch Bulbs*, also *Descriptive Catalogue of Fruit Trees*.  
Thos. S. Ware, Hale Farm Nurseries, Tottenham.—*A B C Bulb Guide*, and *List of Hardy Perennials*.  
E. G. Henderson & Sons, Pine Apple Nurseries, Maida Vale, London.—*Catalogue of Dutch Bulbs*, also *Catalogue of Roses, Fruit Trees, Shrubs, and Climbers*.

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

ABERDEEN. September 22nd and 23rd. Sec., A. J. Rennie, 123½, Union Street, Aberdeen.  
ALEXANDRA PALACE (Potatoes). September 28th and 29th. Mr. John McKenzie, 1 and 2, Great Winchester Street Buildings, London, E.C.  
NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.  
LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

NAMES OF FRUITS.—Our best authority for naming fruits is absent and will not be back for some time, so applicants must be patient.

HOLLYHOCK LEAVES SPOTTED (*J. H. C.*).—The spots are a fungus, *Puccinia malvacearum*. A drawing and full account of it is our No. 687, published May 28th, 1874.

MOSSY BALLS ON BRIAR (*Mary Rochfort*).—They are called Bedeguars, and are caused by a gall-forming insect called *Cynips Bedegaria*. It deposits its eggs in a bud of the young shoots of the Dog Rose and Sweet Briar. The grubs or larvae hatched from these eggs produce those galls or lumps covered with green and reddish fibres looking like moss so frequently found upon those shrubs.

IXIAS (*G. G.*).—Your specimen is *Ixia capillaris incarnata*. As you say it produces seed, and seedlings from them self-sown in your greenhouse, we think they ought to be raised more commonly in that way.

IVY FOR BORDERS (*R. D. G.*).—For covering quickly large surfaces the common Ivy—*Hedera Helix*—is the best. A quick-growing variety with mottled foliage is *H. canariensis maculata*. Some of the small-leaved variegated sorts are very ornamental, but are of slower growth than the above. The best way of obtaining a stock is to insert cuttings in a north border at the present time, planting them out where they are required after they are rooted.

CONSTRUCTING A CUCUMBER HOUSE (*A Market Gardener*).—The most suitable width would be 15 feet inside, which would give you a 4-foot border on each side of the house, with a 3-foot pathway up the centre. The flue should pass beneath each border in a chamber, which should be the width of the border, and be clear of the ground and of the flags or slates forming the bottom of the border, having shutters in the sides of the chamber next the wall about 3 feet apart to let out any excess of heat, returning the flues along the sides of the house to the end from whence they started, and having the chimney at the furnace end. The sides of the side flues may form one side of the bed, the top of the flue being level with the top of the border, and at every 3 feet upon the cover of the flue should be dishes formed of cement to hold water not less than an inch deep and 15 inches long, and as wide as the flue allows. The flues should be three bricks (set on edge) deep, and 9 inches wide inside, and the length of the house should not exceed 36 feet. The border should be 18 inches deep, 6 inches for drainage, and a foot for soil. The side walls of the house should be the height of the border, and the side lights need not be more than 18 inches in height. The trellis should be 14 to 15 inches from the glass, and the wires 6 inches apart. You may have the sides wholly of brickwork, and introduce wooden ventilators at 3 feet apart, the ventilators being 18 inches by 1 foot, opening on a pivot. You will need ventilation at the ridge, a light not less than 18 inches wide made to open the whole length of the house, regulating it at will. A square cistern at each end over the flue is good, it will give you tepid water for watering with; but we think that with your two flues and consequently two furnaces, you will expend more fuel the first year than would clear the additional expense of heating with hot-water pipes, one fire and boiler being sufficient for your purpose, besides much more satisfactory.

CYCLOAMEN ROOTS GRUB-EATEN (*A Reader of the Journal*).—Your only remedy will be to turn all the plants out of the pots and examine the corms, to do which it will be necessary to remove the soil and repot in fresh compost. We do not know of any remedy other than searching for and destroying the grubs. By frequently turning the compost in a heap and sprinkling the layers in turning with soot the grubs may be driven from the soil.

PRUNING ZONAL PELARGONIUMS (*C. R.*).—They should not now be cut back, but any straggling growths may be shortened, deferring the general pruning until February or early in March. Repot them after they have made shoots an inch long, removing most of the soil from amongst the roots, returning to pots just enough to hold the roots, and when they have made fresh roots and before they are much matted shift into the blooming pots. Mrs. Pollock and other variegated Pelargoniums should not be cut back until spring, and after they have made fresh shoots should be repotted.

CUTTING DOWN BROOM (*Idem*).—It is desirable to cut down old straggling plants, but if very old they do not start away freely. The best time to cut them down is early in March.

PRUNING OLEANDERS (*Oleander*).—They, if ill shaped and straggling, may be cut down in April, but they will not flower the same season, nor would they flower next year were you to cut them down now. Defer heading them back until early in April, when they will produce flowering shoots for the following season.

CULTURE OF BRUNSVIGIA JOSEPHINE (*Lovestoft*).—It requires a light airy position in the greenhouse, and to have a pot twice the diameter that of the bulb, using a compost of fibrous yellow loam with a third of leaf soil or a fourth of old cow dung. As your bulb has not begun to grow we should keep it just moist over the winter, and in February or early in March plunge the pot in a hotbed and continue there until fresh growth is made. After it is somewhat advanced gradually withdraw from the hotbed and remove to the greenhouse, keeping well supplied with water until the growth ceases, and then only afford water to keep the foliage from flagging.

EXHIBITING VEGETABLES (*J. R. Altofts*).—There is no book giving special instructions. Grow the vegetables as well as you can, and exhibit them according to the conditions stated in the schedule.

RIPENING MELONS (*M. E. N.*).—When the fruit commences ripening water should be withheld altogether, as a moist soil and atmosphere causes the fruit to crack, and is inimical to its flavour. We cease watering totally after the first indication of ripening, or a week to ten days before the fruit is ripe,

though when a second crop is to be taken the plants are not allowed to suffer for moisture at the roots, but in that case even the moisture is not nearly one-half so much when ripening as during growth. After a Melon is full-sized and netted completely moderate moisture only is required, and the less the plants have after the ripening colour is assumed the more concentrated are the juices—the higher the flavour.

DUNDEE INTERNATIONAL EXHIBITION.—Messrs. John Stewart & Sons, The Nurseries, Bronghty Ferry, inform us that our reporter omitted to state that they had first prize for six Conifers, one plant of which, a *Cupressus Lawsoniana lutea*, was said to be the best plant of it in the kingdom; first prize for a Tree Fern, first for *Todea superba*, first for *Fern* case filled, first for hand bouquet, first for fancy Dahlias, first for Hollyhocks, and second for four other entries.

COLD ENDURED BY COLEUSES (*T. Hariam*).—You should have stated the name of the species. None of the tender sorts should be exposed to a lower temperature than 45°.

SULPHATE OF AMMONIA (*Chesterfield*).—It remains in solution after adding the sulphuric acid to the urins. We cannot name Ferns that have no spores.

RHODODENDRON BED FOR ROSES (*Tyro*).—Mix the soil thoroughly with that of the surrounding border, adding some thorough decayed stable manure, and keep the surface over the roots of the Roses well mulched.

GROWING MELONS IN STRAWBERRY PIT (*A Constant Reader*).—The pit will, we presume, be at liberty after May, and would after that be available for growing Melons, the plants having been raised by sowing the seed in a hotbed a month previous to planting in the house, being then strong plants. They succeed well in pots—11 or 12-inch pots being suitable, but we prefer them 14 inches in diameter, as the necessity for high feeding is not so much needed as in the case of smaller pots.

CACTUSES, HOYA CARNOSA, AND BEGONIAS (*Nemo*).—Cactuses flower in April or May in a greenhouse, and *Hoya carnosa* in June onwards in a greenhouse; but in a stove it flowers from April to November, the flowers being most numerous in May and June. Begonias of the flowering greenhouse section should be kept rather dry now, and drier as colder weather approaches, and dry during winter, but not dust dry, and in March should be repotted, removing most of the old soil, placing them in smaller or the same size of pot. Water should be moderately given until growth takes place, increasing it with the growth, watering freely when the growth is vigorous, and shifting into larger pots, avoiding making the soil sodden by too frequent waterings. Afford a light position when growing, and safety from frost when at rest.

RIPENING PEACHES, NECTARINES, AND PLUMS (*Y.*).—Any leaves overhanging the Peaches and Nectarines should be cut so as to expose the fruit to the light, that being necessary for colour, and, as some think, flavour. High colour and flavour usually go together, but we have had Peaches quite as high-flavoured upon the under side of the trellis shaded by the leaves as upon the upper side and exposed to the sun. Inequality in colour is very objectionable, for when a leaf covers one-half the fruit, the other being exposed, the exposed part will be very deeply coloured, while that part covered by the leaf will be very deficient in colour, and the exact outline of the obstruction may be impressed upon the fruit. Expose the fruit, but do not remove the leaves, only those parts of them covering the fruit. Plums, if summer pruning has been properly attended to, ought not to have any foliage removed in order to expose the fruit to light.

CUCUMBERS GUMMED (*W.*).—The exudation or gangrene arises from a too rich and moist soil, and too moist and cold an atmosphere. Afford a brisker heat with freer ventilation, and soil less rich and moist. The disease is very common, especially in dung-heated frames in late summer.

PREPARING TOBACCO FOR FUMIGATING (*Constant Reader*).—We take the following from the "Gardeners' Year-Book":—"When the leaves have attained their full size and become of a yellow hue they are taken from the stalk, tied together in small bunches by the footstalks, hung in a dry airy room, and left there until dry and crisp. The first damp weather after this the leaves will become soft, and they should be watched to ascertain when this occurs; then pack them in a box evenly, with the butts or stalk ends of the leaves all one way. They are then to be pressed moderately, and in a few days a slight fermentation will take place, when the bunches should be taken out and shaken to let the heat escape. When this has been done repack lightly. The leaves will not re-heat, but it is best to let them remain for a few days laid lightly in the box, and when all fermentation is over pack tightly in a barrel, and keep in a dry place ready for use. As the leaves of British-grown Tobacco are not all mature at one time they must be successively gathered as they ripen."

PROTECTING GERANIUMS IN BEDS (*Wyld Savage*).—You may, perhaps, succeed in your mild climate if you cut the plants down after the first frost to about 6 inches from the ground, and remove all the leaves and weeds from the surface, and cover with ashes 6 inches deeper than the topmost shoots, and over this in very severe weather, if snow do not fall, should be given a covering of litter. The ashes may remain on until April, when they should in mild weather be removed, having at hand protective material as mats to throw over the bed in case of frost.

PLANTING TREES AND SHRUBS (*H. T.*).—Marshall's "Planting and Rural Ornament" would suit you. It was published by Messrs. Nicol, but we think can only be obtained from a second-hand bookseller.

GRAPES DISEASED (*Mrs. Cooper*).—They are shanked—that is, the stalks are dead from the want of sap. The roots are deficient in action, and they might be stimulated by removing the surface soil and watering them copiously with tepid weak manure water.

FERNS (*W. D., Guernsey*).—Only one specimen, and that not numbered, came.

NITRATE OF SODA (*C. P., Herts*).—It may be applied to your Vines and all garden crops at the rate of 1 lb. to 30 square yards, at any time whilst they are growing.

DESTROYING ANTS (*Inquirer*).—You might entice them to a saucer smeared with honey and destroy headatoms at once. Scotch snuff sprinkled on and around the flower bed would exclude them.

SEWAGE (*J. Thomas*).—Collect it in a cistern; you can then dilute and apply it where it is required. No spray of a Vine was in your letter.

HEATING BY A PARAFFIN LAMP (*N. G.*).—We do not see how you propose to heat the tank in your propagating frame by means of a paraffin lamp, as it will be necessary to dispense with a glass, and then you will have smoke which will need to be conveyed clear of the frame and greenhouse by a chimney. If you have no greater difficulty than regulating the heat, that you



may readily overcome by putting the wick higher or lower. It is likely to be very costly, as the consumption of oil is not likely to be less than 3d. per twenty-four hours. Those having experience in heating small frames by means of a lamp would oblige us by a statement of their experience.

STOVE HEATED BY PETROLEUM (N. C.).—We have no experience with such a stove. Any of our readers who have used one will oblige by sending us the information, maker's name, &c.

INSECT ON FERN (*Sussex*).—It is the thrips. Dust the fronds with Scotch snuff, or sponge them with soft soap and water. If the specimen you sent was without spores, the same as the present, no one could identify it.

NAMES OF PLANTS (C. B.).—We cannot name plants from such dried flowerless specimens. They should be sent in a box with dampened moss. (*Hampshire*).—Specimen insufficient. (*S. H.*).—A species of *Eucomis*, perhaps punctata. (*Constant Reader*).—1, *Lycoclesteria formosa*; 2, *Solidago*, probably canadensis. (*W. G. C.*).—A, *Nephrolepis cordifolia*; B, *Athyrium filix-femina*, var. (*F. C. B.*).—1, *Cymbidium elegans*; 2, *C. giganteum*. (*F. B.*).—All forms of *Lastrea dilatata*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### LES BASSES-COURS D'ANGLETERRE.

#### CHAPTER VIII.—THE CEDARS, BATH.

We had long promised to pay Mr. and Mrs. Holmes a visit, but somehow the spring melted into summer, and the summer into autumn, and we had never found the right day. A fortnight ago, however, we determined to throw aside all other engagements and kill two birds with one stone—see the poultry show in the Sidney Gardens and the aviary birds and poultry at The Cedars. Perhaps many will think we could not have chosen a worse day in the year, as Mr. and Mrs. Holmes had close on fourscore pens of birds away at the Show, but we can assure them we found plenty left to criticise, and we could only marvel where the eighty pens lived and lodged when they were at home, for every run and house seemed to have its full stock of inmates. Flower culture has been abandoned at The Cedars, not because the fowls were found to be bad gardeners, but because the trees form such deep masses of shade that flowers will not grow under them. So we found White Cochins hens walking up and down upon the grass, looking at their husbands, which were penned in small separate wire runs on one side of the lawn. These hens seemed very good, one especially took our fancy. They were own sisters to "Blunder," as Mrs. Holmes jocosely terms the beautiful pullet which was passed at the last Bristol Show for being too like a hen. White Cochins should be white at The Cedars, for they have a closely-cut lawn and luxuriant shade over it. The pens where the gentlemen were enclosed, on whom we found the ladies gazing, were planted with laurels and shrubby bushes, but they gave us the idea of being rather damp. They contained a good lot of birds, and though now in very ragged plumage, they have much breadth and thickness of build, so with care and judicious feeding they should make useful competitors for the winter Cochins prizes.

At the end of this lawn, which is on a sloping hill, we found an old summer-house, not one of those little arbours which we find in suburban gardens, useful only for harbouring flies and beetles and such-like odious insects, but a genuine summer-house, a house with rooms and fire-places, and stained glass windows. In one room we found Pigeons—capital Pouters, a good pair of Fans, a Black Turbit or two, and some very fair Runts, for Mr. Holmes has been desperately bitten with the Pigeon fancy, and is getting up a goodly stud.

In another room we found birds, some of those little feathered wonders with which Mrs. Holmes is so successful. We would not pretend to give their names, for we confess we do not know them. We know we made out Love Birds, and Wydahs, and Bishops, and Pekin Nightingales, and many more. They live together as happy as possible, and seemed very tame. One snow-white Dove, which had eggs, would allow us to touch her and stroke her without ruffling a feather. The next room was the basket room, and was full of all sorts of odds and ends in the way of cages and baskets, and bottles and canisters, which are indispensable in a large poultry establishment. Underneath these rooms was the sitting apartment, and one or two obstinate old ladies were even then patiently trying to produce something from empty nests. Near here we found, too, a perfect drove of Light Brahma hens of all sorts and ages and sizes. We could easily spot one or two first-rate birds, but they were mostly very much out of feather, and it seemed unfair to criticise them.

Lower on down this sloping garden we found some Bantam houses, charming little tenements, with tiny enclosed runs. One was empty, for here live when at home the Black Booteds which won the Bantam cup at Weymouth the week before last, and which were on exhibition at the Bath Show with a prize card on their pen. These little houses were built on a plan of Mr. Holmes's own idea, and they seemed very good. They are built in pairs, with a little passage between each house, and have a dry run as well. The whole top lifts up in pieces for ventilation, on the same principle as the roof of a

greenhouse, so the houses are always weathertight, and can be made airy or close entirely at pleasure.

After we had done the garden part we passed through a gate in the garden wall into a sloping paddock, a good slice of which had been cut up into enclosed runs for the birds. The first thing, however, which caught our eye was a cock of peculiar colouring and shape, and we at once asked for its history. We were told it was several years old, and was a cross between a Duckwing Bantam and a Silky. We know we had seen a *fac-simile* somewhere, and then suddenly remembered it was in the "Illustrated Book of Poultry," by Mr. Lewis Wright. Had it not a tiny crest and a reddish-purple comb we are sure it must be the image of the cock in the illustration on page 296 of the above-named work, and there called "Ayam Jallak, a Malay Game cock, drawn from life by a native Chinese artist."

In the runs in this field we found White Cochins, Light Brahmas, White Japanese, Silkies, Indian Bantams, and Mottled booted Bantams. They were of all sizes and ages, and had to run in the very greenest grass runs without exception we ever saw. The Silkies were mostly wonderfully good, especially in crests and leg feathers; but we saw traces of vulture hocks in many birds, and consider them not only an eyesore but a disqualification. We noticed some very promising White Cochins and Light Brahma cockerels, but we thought the cream of the young stock was in a score of fully matured Light Brahma pullets. They were in a barn-like shed littered down with straw, and they appeared to be as good and as even a lot as well can be imagined. Good they were in combs, pencillings, feathering, and shape. We did not wonder at their quality, for we found their male parent in the next run, and a noble-looking bird he was, heavy, massive, and of upright carriage. He had a triangular run, and up in the top angle was his house; and the run being on a steep incline he had to approach his residence by steps. It seemed to have three storeys, and when we saw him first he was looking out of the window of the second floor contemplating the scene below. It was quite ludicrous to see him descend and walk down his flight of stone steps to the run below after some choice morsel. We saw here, too, a very tame common hen Pheasant, which walked about paying calls from run to run. Mrs. Holmes told us she had laid all through the summer with surprising regularity. We found also near here another house full of Pouters, and Runts for feeders; and the chicken nursery, which was a very low shed, apparently very warm, with a glazed front.

After we had exhausted the poultry runs there were long-haired cats to see, and a family of dogs, and many more rare foreign birds indoors. It was altogether a most enjoyable little visit, and we felt quite sorry to leave the stock here, even though it was to see the cream of the establishment in their pens in the Show, but we look forward to spending another long day at The Cedars, and are certain we shall find many treasures which had to be passed over unnoticed on this occasion. A glance at the prize list of the bird department of the Bath Exhibition will show the quality of Mrs. Holmes's stock, and we congratulate her warmly on her success, and hope Mr. Holmes (who, by-the-by, himself won the Pouter cup with a bird of his own breeding) will do as great things in his Pigeons, for no two kinder-hearted or more enthusiastic fanciers are to be found in our ranks.—W.

### MIDDLETON-IN-TEESDALE SHOW OF POULTRY, &c.

THIS Show was held at Middleton-in-Teesdale on the 15th inst., and for a first attempt in such an out-of-the-way place the result was excellent, and the capital way in which the Show was managed was such as to be well worthy of being copied by other societies. Everything being in readiness for judging at nine o'clock, ample time was given for the awards, and all was completed before the visitors were admitted. Mr. Gibson, the Secretary, not competing, placed some very good Aylesbury Ducks in the Show for inspection.

The open division in poultry was for all ages, but a great number were birds of this year. *Brahmas* were but a moderate class, and most of these of the Dark variety; but *Cochins* were much better, and the winners all Buffs, first and third old, and second young. *Dorkings* were a very good lot, and the cup for the section was given to the first pen. *Leghorns* had a class, but most of these were very shabby in feather, but otherwise good; Browns first, and Whites second. *Spanish* were good, the cup going to an adult pen. *Polish* also a good class, most of the winners Golden, with one pen of Blacks. *Game*, Reds were well represented, adult Brown Reds first, cup, and second, and Black Red chickens third. In single cocks the first was the Otley cup Duckwing, still looking well, and well worthy of his position. *Hamburghs* a good lot, and the cup given to a pen of Gold-spangles, the cock in prime order still, after a whole year's hard work. *Bantams*, Game, first-and-cup Black Red chickens, very smart and gamey; second barely losing, were also of that variety. In Any other variety first were Blacks, but the cockerel is too light on leg; Silver-laced were second,

and a pretty good pen. In the Variety class the first were Creves, second Black Hamburgs, and third Houdans. *Ducks* were very good in all classes; the cup was awarded to Rouens, which were an excellent class; and in the Variety class the awards were made to Carolinas, White-faced Whistlers, and Bahamas.

In *Pigeons* the mistake of exhibiting in pairs had been made, and though the entries were pretty good, yet it is certain this system worked considerably against great numbers. Pouters were first with ten pairs, but the pens were far too small, and the birds did not show well, and the rule had to be resorted to, and most of the birds were in very bad feather, though first were in fair order, a very good pair of Whites, and priced at only £4 10s. Carriers were very poor except the winners, which were good Blacks and Duns. Tumblers very good; first Almonds, second Kites, and third Agates. Owls a mixed class, the foreign Whites by far the best, the cup for the best pen in the Show going to the first-prize pen. Fantails a capital class, but sadly crowded in the pens. Barbs, the winners good Blacks, but the rest poor. Turbits, winners Blues, and good. In the Variety class several extras were given, the class being unusually good; first Trumpeters, second Yellow Magpies, extra second Trumpeters, third Blondinettes and also Trumpeters. In the Selling classes were some very good pairs, best among these being a pair of Ural Ice.

The local classes for poultry were but a testing point for the feelings of the inhabitants of the district, and with excellent results as regards numbers, though in most cases little can be said of the quality, although there was one very good pen of Silver Dorkings and one of Gold-pencil chickens; and the Duck and Geese classes were very good. A class for Parrots brought out the Sunderland wonder, which is certainly sufficient amusement for an hour to any who has not heard it before.

**POULTRY.**—BRAHMAS.—1, E. Pritchard. 2, Mrs. Ellison. 4, S. Lucas. COCHINS.—1 and 3, G. H. Procter. 2, C. Sedgwick. DORRINGS.—Cup and 1, J. T. Proud. 2, E. Snell. 3, T. P. Carver. 4, J. T. Proud. LEGHORNS.—1 and 5, E. Brown. 2, S. and 4, J. P. Carver. 3, Mrs. J. M. D. Smith. SPANISH.—Cup, 1, and 3, R. Newbitt. 2, and 4, J. P. Carver. 3, W. H. Silvester. 4, A. and W. H. Silvester. 2, J. T. Proud. 3, J. Goodburn. GAME.—Black or Brown Reds.—1, E. Winwood. 2, J. Nelson. 3, C. Smith. 4, E. Snell. Any other variety.—1, J. A. and H. H. Staveley. 2, E. Winwood. Any variety.—Cock.—1, J. Nelson. 2, C. Smith. 3, J. Cook. 4, W. Younghusband. HAMBURGERS.—Golden-pencilled.—1, J. Smith. 2, T. P. Carver. 3, W. Clayton. Silver-pencilled.—1 and 2, W. Jephson. 3, J. P. Carver. 4, Holmes & Destner. Golden-spangled.—Cup and 1, T. P. Carver. 2, J. Kipping. 3, J. Jackson. Silver-spangled.—1, J. Sturtard. 2, G. Alderson. 3, J. J. Walker. 4, Holmes & Destner. BANTAMS.—Game.—Cup, 1, and 4, G. Hall. 2 and 3, J. Nelson. Any variety.—1, C. & J. Illingworth. 2, T. P. Carver. 3, E. Snell. 4, E. Pritchard. ANY OTHER VARIETY.—1, W. Clementson. 2, C. Sedgwick. 3, Rev. J. G. Milner. 4, J. Mackwell. DUCKS.—Aylesbury.—1, J. Walker. 2 and 4, E. Snell. 3, F. Waller. Rouen.—Cup and 1, F. G. S. Rawson. 2, J. Walker. 3, Holmes & Destner. 4, H. B. Smith. Any other variety.—1, J. J. Walker. 2, J. Walker. 3 and 4, A. and W. H. Silvester. SELLING CLASSES.—1 and 2, S. Lucas. 3 and 4, J. Brockwell. 5, A. and W. H. Silvester.

**LOCAL CLASSES.**—BRAHMAS.—1, F. W. Little. 2, W. H. Silvester. 3, Rev. E. Good. DORRINGS.—1, P. Amos. Cup and 2, R. Hodgson. 3, K. Hutchinson. SPANISH.—1, I. Bradwell. 2, W. Scalfie. 3, Alinson & Bradwell. GAME.—1, J. Kipping. 2, J. Richardson. 3, W. Coates. HAMBURGERS.—1, J. Alinson. 2, J. P. Dalton. 3, J. D. Breckinfield. BANTAMS.—1, R. Armstrong. 2, F. Colman. 3, J. Kipping. 4, W. Coates. ANY OTHER VARIETY.—1, T. Smith. 2, Master A. Hutchinson. CROSS BREEDS.—1, Mrs. Beale. 2, Mrs. Scott. Duck.—Aylesbury.—Cup and 1, W. Porter. 2, T. Tarn. 3, P. Amos. Any other variety.—1, K. Hutchinson. 2, Miss M. Thompson. 3, Mrs. Walton. GESE.—1, W. Porter. 2, P. Raine. 3, A. Lee. TURKEYS.—1, Mrs. E. A. Appleby. 2, Mrs. Walton.

**YOUNG BIRDS.**—BRAHMAS.—1, H. Park. 2, Master J. Helmer. DORRINGS.—1, J. Smith. 2, J. Alinson. 3, P. Amos. SPANISH.—1, and 3, J. Dent. 2, J. Alinson. GAME.—1, W. Coates. 2, J. Alinson. 3, G. H. Procter. 4, W. H. Silvester. Cup and 1, I. Bradwell. 2, J. Alinson. 3, P. Hett. ANY OTHER VARIETY.—1 and 2, C. Tawers. 3, J. Stout. CROSS BREEDS.—1, P. Amos. 2, Wade. 3, J. Sherlock. DUCKINGS.—1, W. B. Mills. 2, W. T. Scarth. 3, T. Tarn. PARROTS.—1, T. Barrow. 2, J. Addison.

**PIGEONS.**—Pouters.—1, Holmes & Destner. 2 and Extra 2, R. Blacklock. 3 and Extra 3, E. Beckwith. CARBENS.—1 and 2, E. Beckwith. 3, P. Wilson. TUMBLERS.—1, 2, and 3, E. Beckwith. 4, A. and W. H. Silvester. OWLS.—Cup and 1, G. Alderson. 2, A. and W. H. Silvester. 3, Bellwell & Ingham. JACOBINS.—1, G. Alderson. 2, J. Raper. 3, T. C. Taylor. 3, J. Young. FANTAILS.—1, W. J. Warhurst. 2, T. Sanderson. 3, E. Beckwith. BARBS.—1 and 2, E. Beckwith. 3, T. Laws. TURBITS.—1, J. Davison. 2, G. Alderson. 3, A. T. Amos. DRAGONS.—1, G. T. Laverick. ANTWERPS.—1, Bellwell & Ingham. 2, J. Stout. NUNS.—1, Garbutt & Sidgwick. 2, R. Stabler. 3, H. H. Wright. ANY OTHER VARIETY.—1 and 2, E. Beckwith. Extra 3, E. S. Barnard. 4, A. and W. H. Silvester. Extra 4, P. R. Spencer. 5, T. C. Fenwick. 6, A. and W. H. Silvester. P. Wilson. SELLING CLASSES.—1, E. Beckwith. 2, J. Young. 3, J. F. Liversidge. 4, G. Alderson. 5, T. Laws. 6, E. Beckwith. W. Chappelow.

**JUDGES.**—Mr. R. Teebay, Fulwood, Preston: Mr. E. Hutton, Pudsey, Leeds.

## WELLINGTON (SALOP) POULTRY SHOW.

The entries at this chicken Show were very good, and we think the Show would amply repay for better classification.

The *Game* made a good display, as they generally do in these parts; and *Game Bantams* won also in the Bantam class. In *Dorkings* a good pen of Silver chickens won first prize; the pullet was a very fine bird, but the cockerel rather too striped in hackles. Second went to a moderate pen of Coloured. *Brahmas* were a very fair class; the second cock was a good deal spotted upon the breast. *Cochins* were a moderate collection; Buff chickens were first, the cockerel rather pale; second went to Whites, good in colour and neat in appearance, but small, and the cockerel very lightly feathered; pen 57 (Darby) better in feather and colour, but still ill-shaped and unfinished; 59 (Swindell) fair Buff chickens, the pullet, however, rather mottled

in colour. In *Hamburgs* a good pair of Gold Pencils won first, and Silver-spangles second. *Spanish* were not a grand lot, and of the two prize pens we liked the second best. In the Variety class first good Silver Polands; the second prize went to Redcaps, at least so the catalogue termed them; they were nearly black, with a few red patches here and there. 72 (Taylor) large well-grown Houdans; 77 (Fowler) empty; 74 (Brooke) good Malays. In the class for the heaviest couple a bad pair of Bufts first, and small and young Dark Brahmas were second. *Ducks* were a good lot considering that all breeds were classed together. Aylesburys won first, which were soon claimed at £3, and second also went to the same breed; 97 (Truelove) Rouens. *Geese* were also a very fine lot; Toulouse were first and second. Next came the classes for birds of any age. *Game* were a good lot, and excellent Brown Reds won first, and smart Black Reds second. In the next class Brahmas, Dorkings, and Cochins competed together. Most of the birds were much out of feather. Light Brahmas were first, the hen in this pen being good; second good White Cochins of large size. Mrs. H. Bailey showed a pen of old Silver-Grey Dorkings, but out of feather. In the *Waterfowl* class pretty Whistlers won first; 170 (Bailey) beautiful White Calls; 174 (Darby) very pretty wild Ducks. The *Turkeys* were few but good; while the adult *Geese* made a fine lot of a dozen pens. Altogether it was a very good little Show, and we were surprised to find so much quality for such poor and scanty classes. We give the list of prizes below:—

### CHICKENS.

**POULTRY.**—GAME.—Black or Brown Red.—1, G. F. Ward. 2, W. Dunning. Any other variety.—1, G. E. Meredith. 2, G. Barnesley. BANTAMS.—1, J. Mayo. 2, S. W. Smith. DORRINGS.—1, Countess of Dartmouth. 2, Rev. E. B. Charlton. BRAHMAS.—1, F. Bennett. 2, C. Naylor. COCHINS.—1, C. Sidgwick. 2, Countess of Dartmouth. HAMBURGERS.—1, H. Feast. 2, T. W. Hallam. SPANISH.—Black.—1, J. Clews. 2, H. Blower. ANY OTHER VARIETY.—1, Countess of Dartmouth. 2, T. W. Jones. SELLING CLASS.—1, Mrs. E. Williams. 2, J. Aldred. HEAVIEST CUP OF FOWLS.—1, Miss A. Brooke. 2, T. W. Jones. DUCKS.—1, J. Hedges. 2, J. K. Fowler. GESE.—1, T. Mills. 2, E. Shaw.

### ANY AGE.

**POULTRY.**—GAME.—1, E. Winwood. 2, Mrs. H. J. Bailey. DORRINGS, BRAHMAS, OR COCHINS.—1, Countess of Dartmouth. 2, A. Darby. SPANISH OR HAMBURGERS.—1, J. Carr. 2, F. Powell. SELLING CLASS.—1, S. W. Hallam. 2, Miss A. Brooke. DUCKS.—1, H. Yardley. 2, J. Hedges. GESE.—1, T. Mills. 2, T. Radcliff. TURKEYS.—1, W. H. P. Nock. 2, Countess of Dartmouth.

## BRACKLEY POULTRY SHOW.

The Northamptonshire Agricultural Society met this year at Brackley, and had a very pleasant meeting. The entries in the various poultry classes were not large, but the quality was mostly very good. *Dorkings* we were most especially sorry to find so meagre in numbers, for they are essentially farmyard fowls, and should always put in as large an appearance at an agricultural show as do sheep and pigs. A good cockerel won first in the Coloured class, and the first pullet in the next class was an equally promising bird. *Spanish* chickens were very good. The first pullet very neat in head. A very smart Brown Red pullet won in the *Game* pullet class for Reds. The other two *Game* classes were, however, so poor that only the first prize was awarded in the class for cockerels, and none in that for pullets. Buff *Cochins* were a fair lot. The first cockerel was well coloured, and looks as if he had much more growth in store. The pullets were well grown, but we have not seen this year any so very startling in colour as yet. In the next class all the cockerels were White, the first much earlier than the second, which was, however, a well-growing chicken. In pullets the first was larger than the second, but not quite so good in shape. In Dark *Brahma* pullets the first was fairly pencilled, but the Lights were by far the best, and the pullets were really exceedingly good. In *Hamburgs* a capital Silver-spangled won second in pullets; the third, too, was also a good Silver. In the Variety class four Black Hamburgs and two Brown Leghorns competed for the five prizes. A very good Black cockerel won in the first class, and a pretty Brown Leghorn third. In pullets the Leghorn came first and the Hamburg second. In *Bantams* good laced birds easily came first for the two first prizes. *Waterfowl* were very good. The Rouens really capital, a large pen of Duckwings winning first. In Aylesburys we thought the bills of a much better colour than we have seen of late at many shows. The Sale classes were large, and the second-prize pullets were not a dear pair.

*Pigeons* only had one class, and when a committee can only provide one class we think they would be better without any, for it only causes dissatisfaction, as no judge can be expected to please all in such a medley.

Mr. Hewitt awarded the prizes and gave satisfaction. We publish the list of prizes below.

**POULTRY.**—DORRINGS.—Silver-Grey or Coloured.—Cockerel.—1, R. Wood. 2, E. Snell. Pullet.—1, E. Snell. 2, J. Gee. Any variety.—Cockerel.—1, J. Gee. 2, R. Wood. 3, R. E. Oliver. Pullet.—1, R. E. Oliver. 2, R. Wood. SPANISH.—Cockerel.—1, Mrs. E. Allsopp. 2, J. T. Parker. 3, D. M. Mills. Pullet.—1, Mrs. E. Allsopp. 2 and 3, W. Notlage. GAME.—Black or Brown Red.—Cockerel.—1, E. Snell. 2, W. Roberts. 3, B. Cox. Pullet.—1, S. Tilley. 2, Mrs. Deacon. 3, E. Snell. Any other variety.—Cockerel.—1, Mrs. Deacon. COCHINS.—CHINA.—Cinnamon or Buff.—Cockerel.—1, C. Sidgwick. 2, W. A. Burrell. Pullet.—1, W. A. Burrell. 2, C. Sidgwick. 3, J. Gee. Any other variety.—Cockerel.—1, C. Sidgwick. 2, Rev. R. S. Woodgate. 3, E. Snell. Pullet.—1, E. Snell. 2, Rev. E. S. Woodgate. 3, C. Sidgwick. BRAHMA POOTRA.—Dark.—Pullet.—1, M. Leno. 2, C. F. Herrieff. 3, W. Roberts. Light.—Cockerel.—1, E. Snell. 2,

Mrs. Peet. 8, M. Leno. *Pullet*.—1, Mrs. Peet. 2, Mrs. S. Browne. 3, M. Leno. *HAMBURGERS*.—*Gold and Silver* spangled.—*Cockerel*.—1, W. Roberts. 2, J. Long. 3, J. Ward. *Pullet*.—1, W. Roberts. 2, J. Gee. 3, W. Pinfold. *Gold and Silver* pencilled.—*Cockerel*.—1, J. Long. *Pullet*.—1, W. Roberts. 2, J. Long. *ANY OTHER DISTINCT BREED*.—*Cockerel*.—1, J. Long. 2, C. F. Herrieff. 3, C. Sidgwick. *Pullet*.—1, C. F. Herrieff. 2, C. Sidgwick. 3, J. Long. *BANTAMS*.—*Cockerel*.—1, M. Leno. 2, W. Ellis. 3, W. Nichols. *Pullet*.—1, M. Leno. 2, W. Ellis. 3, W. H. Nichols. *SELLING CLASSES*.—*Cock or Cockerel*.—1, M. Leno. 2, F. Newbitt. 3, H. Yardley. *Hens or Pullets*.—1, T. Love. 2, H. Yardley. 3, Mrs. E. Allsop. *Drake, Gander, or Turkey Cock*.—1, E. H. Grimsdick. 2, T. Kingsley. 3, T. Holton. *Ducks, Geese, or Hen Turkeys*.—1, T. Kingsley. *PIGEONS*.—*ANY DISTINCT VARIETY*.—*Cock or Hen*.—1 and 4, H. Yardley. 2, W. Nottage. 3, T. W. Swallow.

## HONEY AND WAX.

The statement of Professor Riley touching the question of the production or manufacture of honey from the sweet nectar of flowers is, in my opinion, both interesting and important from a scientific point of view. The truth is so well told in his statement that I will venture to repeat it here. "Bees," he says, "do not extract honey ready-made from flowers, but make it. The nectar lying in flowers could never be manufactured into honey, no matter how manipulated by man, but is taken up by the bees and passed through a state of semi-digestion and excretion, resulting in honey, yet still retaining in part the flavour or perfume of the flowers from which the nectar has been extracted, by which we determine one kind of honey from another." Honey, then, is a secretion of bees to some extent as well as wax. This fact has been well known by most of the bee-keepers of Lanarkshire for sixty years. It was one of my first lessons, well learned before I could master the multiplication table, and ever since when I have been able to turn up a hive and examine its combs convincing evidence in multiplied form has been before me that the crude honey found in flowers and gathered by bees is afterwards changed and converted into honey proper. After having been gathered and disgorged it is re-swallowed, and then passes through a process of preservation, in which it is thickened and sweetened, "resulting in honey," as the professor puts it.

How much, then, is man indebted to the honey bee! What a life of toil and industry do we witness in a hive of bees! Where else can we find such lessons of cleanliness and comfort, of freedom and fraternity—of an industry that is as active at home as it is abroad, as active by night as it is by day—an industry that knows nothing of peevishness or fretfulness? There is a world of wonders in a bee hive which the most observant sages of mankind will never compass or fathom.

Wax is more distinctly a secretion or product of bees, inasmuch as it is very unlike the honey from which it is secreted or manufactured. The manufacture of wax by bees is a marvel from the beginning to the end. The process is hidden, and is likely to remain a secret. The results are evident. Bees can secrete wax at will, and they commence building combs after a few hours' notice. Without any pretensions to accuracy or certainty I think the lamina or plates of wax whereof the combs are built are produced by bees some three or four hours after they have resolved to commence comb-building. The voluntary secretion of wax is, I repeat, one of the wonderful things in the economy of a hive of bees. The combs or wax produced by bees are of different shades of colour; one kind of honey yields wax different in colour from that of another kind. Speaking generally the wax from spring flowers is a shade darker—more yellow than the wax produced in summer and autumn. Field mustard (*Sinapis arvensis*), which flowers in June, yields a wax rather yellow, and the honey from this plant candies very readily. The wax of white clover is not quite so white as that produced from moorland honey. Treacle or common molasses yields a very white wax.

The remarks lately made by one of our intelligent correspondents about the dark-coloured combs which were produced in his supers by artificial feeding has led me to take up this question of wax-production. In laying the foundations of combs, and in attaching new comb to old dark-coloured comb, the bees very often begin with materials rather grey and dirty-looking, but before many inches of comb are built they use nothing but pure wax. In covering the brood in dark-coloured combs they discolour the lids they use in this work. They always temper the colour of the lids of brood cells to correspond with the colour of the combs.—A. PETTIGREW.

THE OLDHAM ORNITHOLOGICAL SOCIETY has just issued a capital schedule of prizes for an exhibition of cage birds and Pigeons, to be held on October 26th to the 30th. Cage birds number no less than thirty-three classes, with prizes of 15s., 10s., and 5s. throughout the whole of the classes; whilst twenty-one classes are devoted to Pigeons, the prize money for which is £1 for first prize, and 10s. for the second in each class. The Secretaries are Messrs. Fleming and Bradbury, Oldham; and the Judges, Messrs. G. J. Barnesby, Derby, and H. Allsop, Birmingham. The entries are announced to close October 16th. In the

schedule it is stated that "exhibitors will be entitled to a ticket of admission for the second day of the Show."

## BRITISH BEE-KEEPERS' ASSOCIATION.

### EXHIBITION OF BEES AT ALEXANDRA PALACE.

LEAVING to experts the full details and scientific review of this interesting Show, it may be permitted for me as a dabbler and mere novice to notice a few things which struck me as worthy of note. Now first and foremost with regard to hives. No one, I think, could fail to remark how thoroughly the bar-frame system has laid hold of the public, and how very much the straw hives—not merely skeps, but those into the composition of which straw entered—have been superseded by wooden hives. The notion entertained still by some bee-keepers that the bees do not like wood has been overborne by the most convincing testimony, that of experience; and it is not, perhaps, too much to say that in a few years they will be universally used where the old method of killing the bees is not adopted. Coincident with this is the attempt of those who supply hives to combine this with economy. Mr. Abbott set the example with his cottagers' hive, plain and useful at 3s.: this is unquestionably the cheapest hive made. Messrs. Neighbour have them at 7s. 6d., and Mr. Lee exhibits a very good one with complete set of sectional supers at 12s. 6d. The Hartlip hive, invented by the Rev. T. F. Scott, is another cheap and good hive, and really as far as I can see nothing better than such hives is required. Of course any expense may be run into, but it is needless, and these hives answer every purpose. Of hives a little more expensive Mr. Abbott's with fixed legs seemed to me the best.

Another advance seems to be in the larger use of sectional supers, of which several patterns were contributed by Mr. Hunter, Mr. Abbott, Mr. Lee, and others, several coming from America. Bee-keepers complain that they can get no market for their honey, and it is difficult to dispose of supers weighing 15, 20, or 30 lbs., but when a piece of comb weighing about 2 lbs. is displayed in a section of the super it is likely to meet with a readier sale; in fact several bee-keepers have found this to be the case; and another laudable attempt is that of supplying these supers at moderate prices, a point at which those whom I have already named have been aiming.

And will not bee-keepers see what can be done by the bar-frame system by such men as Mr. Cowan, who from sixteen stocks and five swarms has taken 1300 lbs. of splendid super honey, besides several hundred pounds of run honey? and this from no exceptional district, for I hardly think that Horsham would come under that character; and like our own neighbourhood, I suppose after the limes are over there is no further supply for the bees. I fancy from what I could gather that those who have taken their hives to the heather have not reaped much by it, as the cold wet weather of this month must have seriously interfered with the bees. In the neighbourhood of Weybridge I saw very few bees at work this week, and heather abounds there. Many other supers were shown; but those of Mr. Cowan—two taken from the same stock, and upwards of 60 lbs. each—were certainly wonderful proofs of what may be done.

The rapid increase in the number of extractors, too, is noticeable; and here the palm must be given again to Mr. Abbott, who in his Little Wonder has met all the requirements, and at the moderate cost of 15s. Armed with this the apiarian can dispense with all the trouble and mess of straining the combs—can, if he carefully manipulates, drive all the honey out and return the comb to the hive for the bees to fill again, or preserve for melting down. When one recollects that the first of these implements introduced cost some £4 or £5, and that now for a few shillings as good work can be done, we must see a proof of the earnestness with which our leading apiarists are entering into the race of catering for the bee-loving community at large.

There were many most interesting adjuncts to the bee-keepers' necessities, and it will not be the fault of either natives or foreigners if bee-keeping is not carried out on scientific principles and with successful results. There were bee traps—one invented by Mr. Abbott, jun., made simply with the awns of bearded grass, seemed simple and effective; queen cages for introducing queens into hives, simple contrivances, such as that of Mr. Hunter's; a brush of asparagus for sweeping off the bees into the hives; quilt (by-the-by, this seems to be making rapid advances, and Mr. Abbott I find, who was the prime mover in it, has adopted house flannel instead of carpet); perforated zinc for adapting instead of boards, through which workers can get up, but no queen or drone can—all these were provided, besides honey in large quantities, and one's only regret was that so few persons were there to see them. It may be better on Saturday and Monday. Altogether the Committee, who worked hard, may be congratulated—at least so it seems to me—on this their third Show.—D., Deal.

This Association held their third annual Exhibition at the Alexandra Palace on the 15th, 16th, and 18th inst., where a very

large gathering of bee-keepers, as well as of the general public, assembled to witness the magnificent display of honey of the late remarkably good season, and the continued improvements made in the various hives and methods of cultivating the honey bee. The large hall of the Palace had about 500 feet run of tables well covered with the exhibits, and the Italian garden was devoted to live bees, where, when the weather would permit, the various operations of driving, transferring stocks, queen-feeding, &c., were shown to the astonished public, who could not understand the perfect *nonchalance* with which Mr. John Hunter and the gentlemen who assisted him handled the bees and allowed them to crawl in multitudes over both uncovered face and hands. The public viewed all these manipulations through the glass of the conservatory, an extra 6d. being charged for admission to the garden, but very soon both ladies and gentlemen, who before this would have shuddered at the thought of a bee's sting, eagerly paid the extra money to be allowed to show their confidence and courage by standing in the midst of the thousands of flying bees, many exclaiming they would never again be afraid of bees. Among the visitors present in the garden were the Duke of Devonshire, Lord Lucan, Lord Ranleigh, and other well-known gentlemen.

Besides English bees, Messrs. Neighbour & Sons exhibited Italians and a stock said to be Cyprians, but in the latter there were many bees evidently mongrels, which prevented a prize being awarded, although it is possible that these were intruders in the hive. A stock of Hungarian bees also arrived too late for competition. There were fifty-one entries for hives of various classes. This is many less than at the first Show, but before that took place bee-keepers' inventions had not been brought to each other's knowledge, and many had hives which they thought perfect, but by comparison were found far behind, and so were superseded. These have now been weeded out, and we may almost say that every hive exhibited at the Alexandra Palace would usefully answer its purpose.

Hives for observation purposes, Class 1, attracted but three exhibitors. The first prize was awarded to Messrs. Neighbour and Sons, but many critics thought that Mr. Wilson's hive (second prize) was entitled to the place of honour. Class 2, for the best moveable-comb hive for depriving purposes, taxed all the talent and ingenuity of hive-makers both amateur and professional. The award of "certificated best" was made to Mr. C. N. Abbott, this hive, with some alterations, having obtained the first prize last year. Its great point then was the introduction of serrated ends to the frames, which fitted into corresponding notches in the front and back, a slip of both folding on hinges. We then pointed out that the extent of propolisation these would receive would be detrimental to its properly working. In this year's hive this arrangement is absent, so that it appears to labour under the anomaly of taking a prize last year for an addition which failed, and this year for the removal of this particular part. Mr. J. M. Hooker took second prize for a very ingenious and beautifully made hive, styled "The Alexandra." Probably its high price (50s.) was a bar to its obtaining the premier place, for there could be no question of its superiority, and there was quite value for money for those who could afford such a luxurious dwelling for their bees. By a peculiar arrangement "The Alexandra" permits of lateral extension right or left, which may either be used as an extra storage chamber on the collateral principle, or put to temporary service to draw the combs into, as in German hives, even if the top is surmounted by a filled or filling super. When the Germans remove their frames they have to place them in a detached box, but here the box forms part of the hive, and may when done with be folded up and stowed away in its special place under the hive. Although there is this lateral arrangement, our usual method of removing from the top is not abolished. All four sides of the hive are fitted with double glass windows for observation purposes. In Class 3, for storifying hives, Mr. Jas. Lee took first prize for a hive which was no exception to his well-known masterly joinery; Mr. Hooker again securing the second place for a hive adopting many of the principles of his formerly described exhibit. In Class 4, collateral hives, the silver medal went to Mr. Hooker for a grand structure, which should be able to fairly test the merits of this principle. Mr. Cowan took the bronze medal, and a commendation was made of the Italian grotto hive, sent by Capt. Danyell, for simplicity and cheapness. Class 5, for the most economical, best, and cheapest complete hive on the moveable-comb principle, for cottagers' use, had ten competitors. The silver medal was taken by Mr. J. Lee for a really good and complete hive, eight sectional supers and cover, for 12s. 6d. For the work and material this was marvellously cheap, but it is very questionable whether a hive costing 12s. 6d. can be "suitable for cottagers' use." By "cottagers" we presume the Association means labouring men, and if so the award was an error. Mr. C. N. Abbott took second prize, and a commendation also for another hive. Class 6, for a hive on an entirely new and improved principle, had no award. In Class 7 Mr. Cowan took the silver medal for a good cheap hive, eke and super costing 3s. Mr.

Cowan, who is an earnest bee-keeper and liberal-minded gentleman, supplies this hive free of cost to any cottager in his neighbourhood who he thinks will make good use of it to start bee-keeping. A high commendation was given in this class to Messrs. Neighbour & Sons for a large and well-made hive, having a wire grating on the crown to prevent the entrance of the queen into the super.

The class for the best collection of hives and bee furniture brought forward the usual fine show from Messrs. Neighbour and Sons, which was matched by that of Mr. J. Lee, to whom the Judges awarded the prize; probably they were influenced by the fact that his collection was mainly the work of his own hands, and his skill in his speciality has never been surpassed.

A notable innovation in the exhibition of supers was the introduction of sections, such as are used in America, and which have been advocated in our columns by Mr. John Hunter. When producers will learn to send their supers to market in these little cheap boxes, then they will find no difficulty in disposing of their harvests.

There was a very good show of extractors, Mr. T. W. Cowan sending no less than six patterns, varying in price from £1 to £3. He obtained the silver medal for an easy-going machine, which reverses the comb without removal, thus saving time and trouble. The second prize was awarded to Mr. C. N. Abbott for a modification of the Italian smielatore. The price of this machine is 15s., which doubtless will tend to make it popular to those who do not mind a considerable expenditure of muscular energy. A good collection of feeders, drone traps, smokers, &c., was shown, to the best of which prizes were awarded, as was also to Mr. F. Cheshire's method of obtaining a wax foundation for combs. Annexed we print the full prize list, leaving our observations on the honey show until our next number.

**HIVES.**—Hive for Observation Purposes, all Combs to be visible on both sides.—1, Neighbour & Sons; 2, B. Wilson. Moveable Comb Hive (to include covering) for depriving purposes.—Certificated best, C. N. Abbott; 2, J. M. Hooker. Hive for use on the storifying principle.—1, J. Lee; 2, J. M. Hooker. Hive for use on the Collateral principle.—1, J. M. Hooker; 2, T. W. Cowan. Most Economical (and cheapest) Complete Hive on the Moveable Comb principle for Cottagers' use.—1, J. Lee; 2, C. N. Abbott. Best and cheapest Skep for depriving purposes.—Prize, T. W. Cowan.

**BEES.**—Stock of Ligurian Bees.—1, Neighbour & Sons. Stock of English Bees.—1, Neighbour & Sons.

**HONEY.**—Largest and best Harvest of Honey in the Comb, from one stock of bees, under any system or combination of systems.—1, T. W. Cowan; 2, P. H. Phillips; 3, Rev. G. Raynor. Exhibition of Super-Honey from one Apiary.—1, T. W. Cowan; 2, P. H. Phillips. 3, J. Walton. Straw Super of Honey.—1, P. H. Phillips; 2, J. Walton; 3, W. Martin; 4, D. Free. Wood (or wood in combination with glass or straw) Super of Honey.—1, J. Walton; 2, J. Wrigley; 3, F. Cheshire; 4 and 5, T. W. Cowan; 6, W. H. Clark; equal 7, J. Asbee, Rev. C. N. Gray, R. R. Godfrey. Glass Super of Honey.—1, S. Thorne; 2 and 4, W. Sells; 3, J. Walton; 5 and 7, T. Plunridge; 6, Neighbour & Sons. Exhibition of Run or Extracted Honey, in glasses of 5 lbs. to 10 lbs. each.—1, S. Thorne; 2, J. Walton; 3, Neighbour & Sons. Exhibition of Honey in supers, or sections of supers, separable, and each not more than 3 lbs. in weight, the total weight of each entry not to be less than 12 lbs.—1 and 2, T. W. Cowan; 3, J. Walton.

**COTTAGERS' CLASSES.**—Largest and best exhibition of Super Honey in Comb, the property of one exhibitor, and gathered by his own Bees.—1, W. Martin; 2, J. Walton; 3, M. Freeman; 4, W. Read; 5, S. J. Baldwin; 6, H. Ellingham. Super of Honey.—1, W. Martin; 2, J. Thorne; 3, J. Walton; 4, S. J. Baldwin; 5, S. J. Baldwin; 6, J. Morgan. Exhibition of Run Honey in glass jars, containing 5 lbs. to 10 lbs. each.—1, J. Walton; 2, H. Ellingham; 3, J. Thorne; 4, W. Scorer; 5, S. J. Baldwin; 6, M. Freeman.

**COMESTIBLES.**—Sweetmeats made from Honey, with recipe attached.—Prize, Mrs. W. W. Jones.

**MISCELLANEOUS.**—Best and largest collection of Hives, Bee Furniture, Bee Gear, and Apiculturalist's Necessaries; no two articles to be alike.—1, J. Neighbour & Sons. Drone Trap.—Prize, F. Cheshire. Bee-feeders, the invention or adaptation of exhibitor.—Prize, C. N. Abbott. Method of Quietening Bees during manipulation.—Prize, C. N. Abbott. Best and cheapest Supers for general use in an apiary.—Prize, J. M. Hooker. Certificate, J. Lee. Cheapest, neatest, and best Supers for producing Honeycomb in a saleable form.—Prize, C. N. Abbott. Honey Extractor, portability and cost to be taken into consideration.—1, T. W. Cowan; 2, C. N. Abbott. Pure Bees' Wax, in cakes of not less than 1 lb. in weight.—1, W. Scorer; 2, T. W. Cowan; 3, W. Martin. For any New Invention calculated in the opinion of the Judges to advance the Culture of Bees.—Silver Medal, C. N. Abbott; Bronze Medals, O. Poole, S. A. Shole, J. M. Hooker. Method of producing Wax Foundation for Combs, either attached, or capable of being easily attached, to bars.—1, F. Cheshire; 2, Neighbour and Sons.

**JUDGES.**—Hon. and Rev. H. Bligh, Rev. P. V. M. Fillenl, Rev. J. D. Glennie, Rev. D. W. Pennell, Rev. G. Raynor, Rev. J. L. Sisson, Mr. W. Carr, Mr. J. G. Desborough, Capt. P. E. Martin, Mr. J. F. Newland, Mr. O. Poole, Mr. O. Symington, Mr. W. B. Tegetmeier, Mr. C. Tite, Mr. T. F. Ward.

## SEA LAVENDER FOR BEES.

SOME years ago you allowed me to inquire what your apianan correspondents thought of sea lavender (*Statice Limonium*) as bee pasturage. It blossoms about the same time as heather. No one seemed to know anything about it, so I now send you a sample of honey made chiefly, if not entirely, from this flower, and shall be glad to have your opinion upon it. I have not found it so much approved of as clover honey, the slightly bitter taste offending some palates. But tastes differ, and the sea lavender is at all events a great resource for late swarms or stocks which have done badly in the early summer, when sufficiently within reach and when the weather is propitious.

I live myself about two miles from the coast, and have been singularly unfortunate with the hives I have taken down to the sea, in the hope that they would strengthen themselves against the winter from this source and save me in sugar. Three



stocks "skedaddled," not liking their new quarters, one I had to take home and feed, and the most promising of all, which really did gather honey, has this year been robbed and starved to death. I have, however, a friend living very near the salt marshes whose bees, "being to the manner born," get a good deal of honey from the lavender, quite enough to compensate them for their diminished area of pasturage, and to set them up, when, as sometimes happens, the latter part of the summer is more favourable than the earlier.

Putting aside the inferiority of the flavour of the honey, sea lavender can never, I take it, compete with heather as bee forage, if only for the simple reason that it supposes tides, which throw the poor bees quite out of their reckoning, and the capricious and often boisterous winds which prevail on the sea-coast. Yet I cannot but hope that these few lines will be some encouragement to intending bee-keepers who live within easy distance of a salt marsh. Many of these have been reclaimed, and now grow something more valuable than sea lavender. But wherever this beautiful though scentless flower still adorns the flat and monotonous waste with its delicate colouring, let the merry hum of the bee add another element of cheerfulness.—E. H. R., *West Norfolk*.

[The specimen sent was very clear and pale. The bitterness mentioned was so slight that we should not have noticed it if our attention had not been drawn to it. To our palate it is an agreeable flavour.—Eds.]

### HONEY BEES AND MUSIC.

The question whether bees have the power of hearing is a mooted point among naturalists. Sir John Lubbock has tried experiments with his bees in order to elucidate the matter. Thus, he has played the violin close to his bees, he has tried a dog whistle, a shrill pipe, a tuning fork, and shouting, but no noise seemed to disturb them in the least. Nevertheless, a curious occurrence took place a few days since at Windsor.

Col. Stewart, commanding officer Second Life Guards, reports that a few days since, when the regiment was returning down the Long Walk from a field day, a swarm of bees, attracted by the music, followed the regiment into barracks, flying about over the heads of the band. On arriving at the barrack-yard the band formed up to play the regiment into barracks; the bees followed their example, formed up also and settled on a branch of a tree over the heads of the bandmen. They were at once taken prisoners by the corporal of the guard, and are now hived in the barrack-yard. The distance over which the bees followed the band was more than a mile. We have heard of spelling bees, but these are musical bees with a vengeance. It is a common practice in the country to collect bees by means of rattling a warming-pan with a piece of iron, or shaking a stone in a tin kettle, and the idea that bees will follow sounds is as old as Virgil.—(*Daily News*.)

### OUR LETTER BOX.

ADDRESS (W. L. Seabrook).—We cannot state the address of "W. H. A."

SCALY LEGS (L. O.).—Wash them with soap and water; give a tablespoonful of castor oil, and reduce the diet. A small feeding of barley in the morning and a small feeding of barley meal at night are all that fowls require having such a large grass run.

DORKING COCK (J. D.).—We fear the symptoms are indicative of roup. Keep him separated from the other fowls. Give him bread soaked in ale once daily and other nourishing soft food. If his attack is only weakness in consequence of moulting that treatment will restore him.

POLAND FOWLS (J. L.).—They all have crests, and should have only four toes. The produce of sunflower seed must depend on the soil and management. One very large flower produced more than 2300 seeds.

HOUDANS (J. L.).—There is a portrait of the cock and hen in our "Poultry-keeper's Manual." The following are there stated to be the characteristics:—"Proportions and General Characteristics.—Body rather round, compact, of ordinary proportions, short-legged, and standing firmly on strong feet; pectorals, thighs, legs, and wings well developed; large head; half topknot; whiskers, beard, triple comb, transversal; five toes on each foot; spotted or splashed plumage, black, white, or yellow-white in the adult—in chickens, black and white only. An adult will weigh from 6 lbs. to 7 lbs.; flesh abundant; bones light, about an eighth of the whole weight. A chicken of this breed is put up to fatten at four months, and killed at four and a half months. If we take away from the weight of the carcass the liver, gizzard, the flesh of the head, of the neck, and of the feet, indeed all that constitute the giblets, which find a ready sale, being considered delicacies by some people, there will remain from 2½ lbs. to 3 lbs. of solid compact meat. In this breed the bones of the chicken may be calculated as being hardly an eighth part of the body, while in butcher's meat they weigh a quarter. Comb.—Triple, transversal, composed of two elongated and rectangular flattened spirals, opening right and left like the leaves of a book, notched on the sides, and thick and fleshy. A third spiral springs up in the middle of the preceding ones, taking the form of an irregular strawberry, and the size of an elongated nut. Another small spiral detached from the others, and the size of a lentil, should appear above the beak between the two nostrils. The wattles should be united to the comb, by fleshy parts which form the face, surround the corners of the beak with apparent notches, and the eye with a naked lid. The ear-lobs short and hidden by whiskers. The half topknot thrown backward, and on the sides a few pointed feathers turning at the points, but sticking-up in the air. Face.

—Naked, surrounded with whiskers formed of short-pointed and up-turning feathers. Beard.—Begins under the beak between the wattles, joins the whiskers, and hangs down the neck; wider at the bottom than at the top. Beak.—Strong and rather hooked, black at its insertion, and yellowish at its extremity, depressed towards the beard, and dropping considerably at the corners. Physiognomy of the Head.—Differing from many other species by several remarkable features; the head and neck form rather an open angle, so that the drooping beak is seen above it, and takes the appearance of a nose. Comb.—The square and flattened comb seems to be a fleshy forehead, the cheeks (in England, face) are surrounded with curling feathers which look like whiskers, the drooping corners of the beak resemble a mouth, and a cravat of feathers joined to the wattles simulates a beard; the topknot is like a rough head of hair, and the entire face at once suggests the idea of that of a man. Colour of Legs.—In adults, a leaden grey; in chickens, bluish and whitish grey, with rose-coloured spots. Plumage.—It should invariably be composed of black, white, and straw-colour; those fowls that have any mixture of red should be got rid of. The plumage of the Houdan is of the variety called splashed or curl-papered. It is irregularly composed of feathers sometimes black, sometimes white, sometimes black tipped with white, and sometimes white tipped with black. The Hen.—Body: well set, appearing almost as large as that of the cock, firmly planted on strong legs; breast, thighs, legs, and wings well developed; large head; demi or whole topknot; whiskers and beard very distinct; rudimentary comb and wattles; five claws on each foot; feathers of the abdomen very fluffy, ample and pendant; other feathers of ordinary length; splashed plumage, black and white with violet and greenish shades. Physiognomy of the Head.—When the topknot is very developed, the hen is unable to see in front or on either side; she can see only on the ground, because the feathers cover not only the lid but the eye itself; this gives the bird a nervous motion at every noise it hears. It is only by close observation her eyes can be discovered at all."

GOLDFINCHES (C. G. B.).—The terms "Cheverel," "Chibald," or "Chevalier" are applied to Goldfinches possessing a white speck or mark immediately beneath the lower mandible, sometimes so large as to completely divide the bright scarlet-red facing which mostly surrounds the heads of the Finches. We do not consider birds so marked as of a distinct breed. Upon this subject we shall further remark in our next issue.

CANARY MULE WITH SORE NEAR THE EYE (Avis).—Rab the place with citrine ointment, obtainable from any chemist.

MELLIOT FOR BEES (A. R. H.).—The flowers of nearly all the trefoils yield abundance of bee pasturage, but especially the white clover, Trifolium repens, and the common mellilot, Trifolium officinale. They are common in most pastures.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 49" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.	
1876.	Barometer at 89° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.		In sun.	Of grass	In.
Sept.		Dry.	Wet.			Max.	Min.	deg.	deg.			
We. 13	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	deg.	deg.	0.049
Th. 14	29.768	51.0	43.2	N.W.	54.5	55.8	41.3	79.8	89.2			
Fri. 15	29.758	53.0	51.9	N.W.	54.3	64.0	47.8	106.3	45.2			
Sat. 16	29.765	46.1	46.1	N.W.	54.3	64.3	32.9	102.4	49.8			0.102
Sun. 17	29.850	53.3	53.7	N.	53.7	57.8	43.1	67.2	38.9			0.154
Sun. 17	29.764	59.2	55.0	W.	54.8	67.2	50.4	112.8	47.5			0.120
Mo. 18	29.870	57.0	55.2	S.W.	54.8	67.6	47.4	113.2	42.2			0.023
Tu. 19	30.239	57.1	54.0	N.W.	55.3	67.4	47.1	112.0	42.2			
Means.	29.831	53.8	51.9		54.5	63.4	45.7	98.8	42.2			0.044

### REMARKS.

- 13th.—Fine but cold morning and forenoon; very dark between 3 and 4 P.M., and again after 6 P.M.; rain in the evening.  
 14th.—Fine forenoon, but rather cloudy about 1 P.M.; taken as a whole a pleasant day.  
 15th.—Dense fog, clearing off about 11 A.M.; slight sprinkle of rain between 2 and 3 P.M., but a pleasant day.  
 16th.—Wet and uncomfortable morning; showery and disagreeable all day even to midnight.  
 17th.—Beautifully fine morning and forenoon; rather cloudy at 2 P.M. and a slight thunderstorm (but not heavy rain here) from 3.20 to 3.45 P.M.; wet afternoon, dull evening, but fine night.  
 18th.—Fine morning and (but for a heavy shower between 1 and 2 P.M.) a fine day, and starlit night.  
 19th.—A beautifully fine day and starlit night; slight aurora about 7 P.M. Mean temperature slightly lower than the previous week, barometer rising rapidly at the end with indications of finer weather.—G. J. SYMONS.

### COVENT GARDEN MARKET.—SEPTEMBER 30.

THE market continues thinly supplied with nearly all classes of goods with the exception of Apples, there being a larger quantity arriving than was anticipated, but prices remain much the same, business being generally very quiet. Apples are fetching from 1s. 6d. to 5s. the half-sieve, and Figs from 1s. to 3s. per dozen.

		FRUIT.					
	s. d.	s. d.		s. d.	s. d.		s. d.
Apples.....	1 sieve	6 to 5	Nectarines.....	dozen	8	to 12	0
Apricots.....	0 0 0	0 0 0	Oranges.....	10	0	24	0
Cherries.....	lb.	0 0 0	Peaches.....	dozen	3	0	13
Chestnuts.....	bushel	0 0 0	Pears, kitchen.....	dozen	0	0	0
Currants.....	1 sieve	0 0 0	dessert.....	dozen	1	6	8
Black.....	1 do.	0 0 0	Pine Apples.....	lb.	2	0	0
Figs.....	dozen	1 0 1	Plums.....	1 sieve	7	6	13
Filberts.....	lb.	0 0 0	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0 0 0	Raspberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	0 6	0 6	Strawberries.....	lb.	0	0
Lemons.....	100	12	0 13	0 13	Wanuts.....	bushel	0 0 0
Melons.....	each	2	0 5	0 1	ditto.....	100	0 0 0

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPT. 28—OCT. 4, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
28	Th	Radbeck, 1702.	65.1	44.0	55.4	5 58	5 43	4 22	0 54	11	9 32	272
29	F	MICHAELMAS DAY.	65.5	44.3	54.9	6 0	5 41	4 37	0 54	12	9 52	273
30	S		65.0	43.3	54.2	6 1	5 38	4 49	2 9	13	10 12	274
1	SUN	16 SUNDAY AFTER TRINITY.	65.4	44.7	54.1	6 2	5 37	5 0	3 25	14	10 31	275
2	M		64.4	43.9	54.1	6 4	5 35	5 11	4 41	15	10 50	276
3	Tu		63.7	41.5	52.6	6 6	5 33	5 22	5 58	16	11 8	277
4	W	Royal Horticultural Society—Fruit and Floral Committee at 11 A.M.	63.7	42.4	53.1	6 7	5 30	5 35	7 18	17	11 26	278

From observations taken near London during forty-three years, the average day temperature of the week is 64.4°; and its night temperature 49.4°.

## MELONS DESTITUTE OF FLAVOUR—GROWING IN COLD FRAMES.



MELONS have not been good this year." The observation surprises me, for I have never had a finer crop of higher quality, and that under very ordinary—i.e., hotbed culture. I have three two-light and five three-light frames over dung beds devoted to Melons, and the plants have averaged three fruits per light for a first crop, and in ten lights I have had a second crop of an average of three fruits per light, and in four lights I have a third crop of three fruits under each light; these fruits, as might be expected, being small, or weighing 1½ to 2 lbs. each—just the size for breakfast, some persons being particularly fond of a Melon in the morning, and a small fruit is as good, often better, than a six-pounder. The 105 fruits afforded a fruit daily up to the middle of September, commencing July 3rd—about a fortnight later than usual. The heaviest fruit was Beechwood × Read's—7 lbs., and the smallest 1½ lb., a cross of Moreton Hall with Wills's Oulton Park × Colston Basset; the smallest were the most esteemed, and of those I had only a dozen, the remaining ninety-two all exceeding 2 lbs. weight. The only two named kinds grown are Eastnor Castle and Heckfield Hybrid, some fruit of the last reaching 6 lbs. I grow those—Eastnor Castle for its high quality and continuity of bearing, and Heckfield Hybrid for its free-bearing and hardiness, it being harder than Little Heath.

I have a 60-feet run of lean-to frames divided into fourteen lights, which are used for Lettuces to come in early in spring, and for raising plants, or hardening-off plants afterwards up to the end of May. The frames are only 4 feet wide, and are not heated. Loam enriched with stable manure was used for the Lettuces, and into this soil I put out a Melon plant under each light from a 4-inch pot on the 10th of June, and they have given two fruits per light of over 2 lbs. each, some weighing nearly 4 lbs. I find Heckfield Hybrid is not nearly so oval when grown cold as when grown with both top and bottom heat. It is hardier and larger than Little Heath, is earlier under the same conditions, and of better quality; it is free in growth, though small in foliage, and the fruits set and swell freely. I selected it and Little Heath for planting in the cold frame as being the two hardiest, in order to compare the doings of some cross-breds with them, my object being to obtain a Melon with the high flavour of Scarlet Gem, or its better form Read's Hybrid, scarlet-flesh, Meredith's Hybrid Cashmere in green-flesh, and Golden Gem in white-flesh—one that would succeed from sowing the seed early in April, planting-out in May, and ripen with as little protection as that afforded Vegetable Marrows. Read's being the hardiest form of Scarlet Gem, I crossed it with Golden Gem, and the result is a variety of the type of both parents with much harder constitution, ripening perfectly in a cold frame without any heat other than that of the sun. Golden Gem is not much netted, but the cross with Read's gave

fruit as finely netted as the latter and of handsome appearance. Then Beechwood × Read's gave a green and scarlet-flesh, representative of both in the progeny, both succeeding in a cold frame. Any amateur who, using his frame or frames for raising half-hardy plants from seed, and is desirous of growing Melons in the frames after the middle or end of May, but is deterred by the idea that artificial heat is necessary, may be disillusioned if he applies for a few seeds, of which I shall be happy to give so long as they last—namely, Golden Gem × Read's and Beechwood × Read's; and any who can command a hotbed in May, to line it with grass-mowings afterwards, can have seeds of Moreton Hall × Wills's Oulton Park × Colston Basset, a blunt-ended oval small kind, ranging from 1 to 2 lbs. in weight, just the thing for a Melon connoisseur; but it is only right to state that it has so hard a rind as when ripening to be liable to crack, which may, however, be prevented by keeping dry at that time and leaving a little air on at night to prevent moisture from condensing upon the fruit during the night. Any amateur sending a stamped directed envelope is welcome to a few seeds. I may mention that a grand Melon for breakfast is Colston Basset. Big Melons like large dessert Apples are often poorly flavoured.

Melons are often ruined by too much heat. They grow luxuriantly, but the fruit turns yellow instead of swelling, and the result is only a fine crop of foliage. To have Melons in May and early in June bottom heat is absolutely necessary; but after the middle of May a spent hotbed is as good as a bed of fresh material. What most Melons like is a broiling sun and plenty of water at the roots. I water them with a hose pipe, the water often being 20° below that of the temperature in which the plants are growing. Everybody knows that when plants are grown in bottom heat to water with the fluid less in temperature by 20° would lead to disastrous consequences, but it does not in the least affect plants without bottom heat. Constant dribblings of water overhead may prevent evaporation, but they are practically useless as means of supplying food to the plants and fruit. Drizzling waterings, syringings, &c., may be necessary in hot-water-heated structures where the air is being made constantly lighter and the moisture is reduced in proportion, but in unheated frames the case is very different. I usually give such a watering that it runs through a dung bed. Twice a-week this watering is given in very hot weather, but, as a rule, only once. As for sprinkling overhead at closing I have never thought about it since I gave up growing Melons in pits with top and bottom heat furnished by hot water. We do not want Melons until the middle of June, and such pits are put to better purposes.

I find the beginning of March is as early as the seed need be sown for growing the plants in frames or dung-heated pits. The plants are potted singly in 4-inch pots when the first rough leaf shows itself, and in sowing and potting the soil is thoroughly moist and warm. The fruiting bed is made up when the plants are potted, and the soil is put in when the heat of the bed is not more at 6 inches beneath its surface than the hand can bear;

about two barrowfuls are placed under each light, covering the surface of the bed about 2 inches deep, and the rest is formed into a cone in the centre with the top flattened so as to be about a foot from the glass. The plants have the points taken off at the second rough leaf, and one plant is put under each light, planting to within half an inch of the seed leaves, these being left clear; the soil being made firm about them, and that forming the ridge is also firmed.

I am careful that the soil is moist when placed in the frames, and then no water is given until the plants reach the sides of the frame, when the soil is examined and if dry a good watering is given. The plants eventually produce secondary shoots, and it is upon these that the fruit is borne. I take two primary shoots to the back and two to the front of the frame, and rub off all others, also the leaves for a distance of 6 inches from the stems all round, and not a leaf or a shoot is allowed to grow on those parts of the stems. That is done to keep off damp or canker at the collar, and the stems not wetted in watering more than can be helped. The secondary shoots will show fruit at the second or third joint. I now see that the bed is lined and the soil moist. When half to a dozen flowers open upon a plant I impregnate them about noon, the frame having had air for some time, and stop each shoot one joint beyond the fruit. At night after this time half an inch of air is left on each light, continuing to look daily for opening flowers, and impregnating them when fully expanded. When the fruits are of the size of an egg I remove all but three or four on each plant. The shoots carrying fruit are kept stopped to one joint beyond the fruit, and other growths are removed, those below the fruit being rubbed off, except a few near the collar, which are stopped rather close, the object being to have the basis of a second crop. The plants are gone over once a-week for dressing and watering. The fruits are placed on pieces of slate and exposed to the sun. The fruits change colour about ten days before ripening, then no water is given, especially to those ripening in cold frames; but if the soil be dry a last watering is given, particularly when a second crop is desired.

At this stage I commence when a second crop is wanted to cut away the laterals a few at a time, and make choice of about four shoots emanating from near the collar of the plant and encourage their growth. These shoots take the sap which would, by the removal of the laterals, be diverted to the fruit, and cause it to crack. The fruit is cut the day after its aroma is perceived, and is placed in a fruit room until fit for table. The fruit being cleared the old shoots are cut away to those we have prepared to supplant them, and a moderate watering is given, using cold water after the middle of June. In very bright weather the plants are now watered twice a-week, if cloudy with alternate clear intervals once, and if dull and wet not at all.

As to air, it is given at 75° and taken off at that, allowing in the meantime the temperature to mount up to 85° or 90° and not higher if it can be helped. As to night temperature I never trouble myself about it. Up to June the beds are kept well lined against the sides of the frames, and the lights have a double thickness of mats over them. Two beds are made up at a time and at intervals of a fortnight to three weeks, the last in May.

This is the last time that I shall grow named sorts, and I strongly advise others to cross and recross, being certain that they cannot fail in originating kinds that will be improvements upon the parents. I have found that any advance to higher flavour must be sought by a concentration of the juices in a smaller fruit, advances in size only enhancing coarseness. I may say that I have material for a trial under hand-lights another season, giving the plants the same treatment as Vegetable Marrows, and I anticipate favourable results. Having heard so much of the poor quality of Melons this season I thought a very simple mode of culture might not be unacceptable.—G. ABBEY.

## TWELVE ROSES ANY VARIETY.

I quite agree with your correspondent Mr. Gould of Mortimer, that the above is a class which ought to be specially fostered, and that in every public show there should always be a twenty-four class for nurserymen and a twelve class for amateurs. The change of it into twelve triplets at the Crystal Palace this year was hardly a change for the better. This class greatly increases the number of exhibits, as the twenty-two boxes side by side this year at the Alexandra Palace abundantly

proved. A twelve box is a most manageable size for taking about. It shows Roses to great advantage, whereas the eye is fairly bewildered by thirty-six and forty-eight. It ought always to contain twelve perfect blooms, which, except with large growers, cannot be insured even in a twenty-four box. Of course there should be four prizes if it be an object to obtain a large number of exhibitors.—A. C., *Brockham Vicarage*.

## FRUIT TREES FOR SMALL GARDENS.

"W. W." asks for information about the most suitable kinds of fruit trees for a wall facing the south; he also wishes to know which are the best sorts of Plums, Peaches, Pears, and Cherries, and further requires to understand the proper management of the soil preparatory to planting, and when to plant. There are many other owners of small gardens who want a little help in this matter, and as the planting season will soon come round again I purpose making my reply as comprehensive as possible.

Turning first to the soil, I do not hesitate to assure "W. W." that its treatment is in the majority of cases a very simple affair. Soil that will yield good vegetables will yield good fruit, and such soil is almost invariably to be found in every part of the suburbs of large towns. As a general rule it will therefore only be necessary to deepen the soil at the station of each fruit tree, and in doing this I would always prefer raising the station considerably above the common level, say 9 inches or a foot, and thus not only avoid deep excavations—always a laborious and costly matter, but also by thus elevating the tree contribute very materially to its future health, vigour, and fertility. "W. W." suggests flagging or concrete as being necessary to place beneath the soil of a fruit-tree border. It is undoubtedly a good plan to use concrete in low-lying districts having a badly drained and water-logged subsoil; but under ordinary circumstances concrete is quite unnecessary, and is really a source of disease when placed under a shallow well-drained soil, inducing a stunted growth, abnormal fertility, and premature decay. Let, then, the stations be somewhat elevated above the common level, the area of each station being 6 feet square, and the soil 2 feet deep. See that the drainage is thorough, which it will be if the water from heavy rainfall passes through it with tolerably rapidity, which is easily ascertained by making a small hole in it, and if no accumulation of water follows it may safely be concluded that the drainage is efficient.

Do not be persuaded to plant too early, let the growth of the current year come to maturity in the nursery before the trees are lifted. November is the best month of all the twelve in which to plant fruit trees; all good growth is then perfected, the buds are plump and full, the foliage is falling, the growing season is fully past, and the trees are at rest.

Plant when the soil parts readily from the tool, and not when it is so saturated as to cling together in large clods. Select healthy, vigorous, and small rather than very large trees; prune any very long, decayed, or bruised roots; see that none of the remainder are twisted or cramped, but that all lie straight in the soil. Do not bury the stem, 3 inches of soil over the upper roots is an ample covering. Press the soil gently but firmly about the whole of the roots. Prune all weakly spray, thin crowded growth, and shorten the leading shoots to induce a vigorous start in the spring, sufficiently near the base of the branches to have them well furnished with an abundant and strong lateral growth. Fasten each tree securely to a wall or stakes as it is planted, so that the roots are undisturbed by wind.

A selection of the best sorts of fruit is a matter in which individual taste is so intimately concerned that I cannot hope to afford general satisfaction or to obtain an unchallenged approval of my lists. I must, therefore, rest content with naming only sorts of proved merit, leaving novelties which are at all doubtful to be included in future selections should they prove worthy of a place.

*Peaches*.—To those wanting only one tree *Grosse Mignonne* may be strongly recommended as a hardy variety, having a free growth and bearing abundant crops of large, highly coloured, handsome fruit. It is what is termed a mid-season variety, coming into use about the middle of August. For earlier fruit take *Early Beatrice*, which affords a supply of ripe fruit by the middle of July onwards to the first week in August; and for a late kind, ripening in September, we cannot have a better than *Barrington*, which is a vigorous grower, forming a large tree quickly, and bearing its very large beauti-

fully coloured fruit freely. I am strongly tempted to add more of my favourites, but refrain, as I remember I am writing for very small gardens, and am anxious that these notes may prove of real assistance to the owners, who ought certainly to waste none of their space upon any but the choicest of fruits, flowers, and vegetables.

**Nectarines.**—Many sorts of great excellence worthily claim attention, but I think on the whole that Stanwick Elruge is quite the best of them for a small garden. It never disappoints, always yielding an abundant crop of really fine, handsome, and rich-flavoured fruit, and the wood growth is healthy and vigorous. For an early kind we have none equal to Lord Napier; and for a late one to follow the Stanwick Elruge, Pine Apple worthily ranks first.

**Figs.**—In the south of England we are able to obtain a supply of ripe Figs from trees growing in the open air; the best and most reliable variety being the old Brown Turkey. I have had very old and very young trees of it, and have found all of them extremely fertile. For a couple of other sorts I can recommend White Marseilles and Grizzly Bourjassotte. The growth of this last is with me only of medium strength; it would, therefore, probably prove suitable for a small garden.

**Cherries.**—Of these the best sort for a small garden is in my opinion *Impératrice Eugénie*. Its growth is robust and compact, yet tolerably free, and its large, handsome, and delicious fruit clusters so thickly upon the branches as to render the picking a tedious and difficult operation. For a couple of other sorts I cannot do better than to take the Kentish and the Morello, both of well-known excellence for all culinary purposes, the Morello also affording some excellent dishes of late fruit for eating. I may add that this trio is selected from nearly thirty sorts which I have in cultivation.

**Plums.**—There are so many kinds of Plums of equal merit that selection is most difficult. For dessert I may take the old Green Gage, with Bryanston Gage and Purple Gage; for cooking, Early Rivers, Victoria, and Belle de Septembre.

**Apricots.**—Kaisha has proved best with me in health, vigour, and fruitfulness. The fruit is large and excellent, and I am induced to draw special attention to it as it flourishes in soil that is not considered favourable to the Apricot, other sorts being much diseased or dying outright in a season or two after planting.

Pears and Apples, with some hints as to aspects, will be noticed in a future communication.—EDWARD LUCKHURST.

### THE ROSE ELECTION.

An' why shouldn't I zay zummut about the Rose, though I be but a poor ignorant Zummerzet chap? I've allus loved the vlower, and cultivated eet likewise zo var as my means and my toime would permit. Aye! an' I've zhow'd eet too at exhibitions near where I bide, an' now an' then have had a prize.

An' I tell'e what the Rose wants, an' that is a loo zittuation an' a roit down good zoil. Not too much dung; I doant hold with overveeding ought, be eet pigs or vlowers. Moderazun is my maxum in all things, an' vor all, whether man, brazten, or vlowers.

I'ze but a wee beet o'groun', such as the chaps who writes zo larned to'e about Roses would tarn up their nozes at, but yet eet is large enuff for taters, greens, an' Roses too. What does I think is the best stock vor Roses? Why, stocks err all one to I. The only thing I'ze cares about is to have a large stock ov them—at least as many as my groun' 'ill hold. In the fall I goes round the highways, an' byeways too, an' where I dare I pulls out a good young Dog Rose Briar, takes him home, an' puts he in the ground before he knows he's been disturbed. I doant care about hacking the roots like zome does, but just cut with a knife or sharp hook—the oldest works off—leaving the tender young roots, which should be on all Briars, to grow. I buds he next zummer, an' not till the following spring do I manure him, but then doant I jist liquor him up in the growing time, particular when the bud begins to swell. I'ze a wee bit ov a zesspool, or zome zich contrivance, into which all the zlops err thrown during the whole year, an' about once a-week I gee's them Roses zich a zoaking. An' doant they buds thrive! I never stops the shoot; I ties eet op as eet grows to a stake, an' encourage eet in iv'ry way the vurst year to grow; but the zecund year I cuts eet down to about a' nides vrom the baze. Then doant eet jist zhoot an' burzt on all zides, zummet like 'Sparagrass buds. An' now as to zorts. Well, I knows a good vew, but iv I was to name 'em to'e perhaps ye'd zay to I, "We knows that bevore,

my lad, thanks vor nothing." Well, may be you're roit, but yet I mun just name a vew.

There's those blezzid Tea-zents. Oh! what loovely blooms they be in this country. I knows, or at least chaps zay, that oop the cuntry the Tea wo'n't do out ov dooars; but yer an' down the cuntry they grows an' flourishes loike meadows drezzed with guano. An' yer I mun tell'e a bit ov an aneodoot about this blezzed guano. A varmur chap went to buy zome ov a agent, an' couldn't remember how eet were named. "Yer, maister," he zays, "I wants zome ov that 'ere stuff. I doant know what the hangment ye calls eet, but eet stinks zummet loike owlets' muck." Eh, zurs, an' what foine stuff this 'ere guano is vor them Teas, too, in the spring ov the year. Vurst there's Cloth ov Goold, that grand goolden vlower, which 'squire tells I iz zo hard to bloom, but with I eet does as well as any other. Eet is a rare beauty is Cloth ov Goold. I niver tiches mine wi' a knife, but when eet grows beyond all bounds jist take a reaping 'ook an' out down great branches ov eet. This Rose is quite different from any other yeller Rose in these parts. Eets growth is most vigorous, eets habit erek, an' eets blooms more comely than eether Maréchal Niel or Solfaterre. Eets only beat by one, according to I, an' that's that lovely, dilicate, charming Marie Van Houtte. A vollum might be written about this Rose; no words, howiver, that I can command will describe eet to 'e. I zend 'e a bloom by this poost, an' you can zee vor yourzelves what she be loike, though, ov course, ye must take into account that she's been tozzed about in the Gurt Western Mail avter travelling thirty miles in a mail cart; but do 'e zay if I be not roit in what I zays ov her.

Then there's those two delaiftul zisters; one zeeming to blush at beholding t'other's loveliness, t'other turning pale wi' doubt whether she be as vair as her zister, an' them be Souvenir d'un Ami an' Souvenir d'Elise. Talk to I ov yer Hybird Perpetuals, where's there one that can hoold a candle to these two darlings? Whoy, iv I, gurt hulking coarze brute ov Zummerzet chawbaacon, as noo doubt ye and yer readers will call I, could perduce or zend out, or whativer ye call it, zich a vlower as ayther of those I 'u'd gladly zing, *Nunc dimittis*. The man who zent them out is a man whose praise ought to be zung in ivvry place by oold an' young—I were gvain to zay *deef an' dumb* vor the zake ov the rhyme as 'twere, but that 'u'd hardly doo. An' then, zurs, there's that zweet companion ov theirs—rival we mus' n't, inferior we can't, call her—that Rose whose vorm is loike a "Venus de Medicine" [we presume Venus de Medici is here alluded to.—Eds.] an' colour a zoft warm flesh loike that tinted statue ov her I zaw when I went to the Gurt Exhibition. Avter her comes a Rose not yet zo well known as those as I've named, but which bids vair zoon to rival 'em, an' that is Souvenir de Paul Neron. 'Tis a moighty long unzootable name, but that's his only vault. I wish 'twere Souvenir de Madam Paul, or zummut else, vor he has no more connection or zemilitude to the gurt hulking begger Paul Neron than a Daysey be to a Dandelion, or a zweet Vilet to a Toadstool. This is a dilicate white in colour, wi' a dash ov pink deepening to the zentre. Eet should be cut when 'tis about ha'f open, as when vully expanded 'tis loike oold zider, a leetle vlat. Then comes Rubens. Now, zurs, I ventur' to think that this Rose is a leetle neglected, an' does not receive the 'tention he dezerves. In the autumn 'specially, an' I should imagine all the yer round iv shaded vrom the zun, the tints ov its various petals err what I calls zooperb—zoft but distinct, vlooding the rose in a zea ov the lightest rose, or vilet rose, if there be zich a colour. But I be a poor hand at describing, and no doubt ye knows all about it, much better too than I. Yet iv I'm ax'd to zay what I calls the best Roses I zay the Teas, out an' out, vor they put to shame, not only in dilicacy ov colour, but perfection ov vorm, all Hybird Perpetuals that have ivver been zeen, or, I think, will ivver be zeen by—A ZUMMERZET YOKEL.

[The specimen of Marie Van Houtte was the finest bloom we have ever seen of the variety, not excepting blooms which have been so well exhibited by the Rev. J. B. M. Camm from Dorsetshire.—Eds.]

### THE POTATO CROPS IN IRELAND.

For some time past I have been watching the Journal to see if anyone would tell about our wonderful crop of Potatoes this year. In the first place, Potatoes were much later in being planted this season than usual, our spring being very wet and cold. It was almost May before they were all planted. However, the weather became very hot, attended with showers; the



crops grew rapidly, and the result is, we have a crop the like of which we have not had since 1847, the year of the great failure. Our crop is abundant. The flavour is excellent. The tubers are free from disease. It is a novel sight for the young folks to see whole fields as green and healthy as possible at this date, 19th of September. The elder people tell me they have not seen it thus since before the years of 1846-47. I hope your readers will enjoy to read about Paddy having such a plentiful supply of his favourite dish (Murphies).—B. G., Co. Down.

### CULTURE OF THE SOFTWOODED ERICAS.

At no season of the year are flowering plants held in so much esteem as during the winter and spring months. The softwooded *Ericas* are amongst the foremost in attractiveness during those periods, but are seldom seen in good condition in private places, which is generally in consequence of the plants not being cut-back freely. They should be cut to within 2 or 3 inches of the current year's growth in the case of old plants.

The present is the best time to raise a stock of these plants from cuttings. Select the cuttings, of which there is an abundance on well-ripened shoots of the present season's growth, and take them off with a heel, and insert them in 32-size pots which have previously been filled to within 2 inches of the top with crocks. In preparing the pots place a little rough peat over the crocks and fill-up with sandy peat, pressing the soil down very firmly, which is of great importance, with some silver sand on the top. After inserting the cuttings place the pots in a cold frame and plunge them in cocoa-nut fibre, keeping the frame very close and carefully shaded from sun. There they may remain till they are rooted; or if there is convenience, place them, after they have been in the frame a fortnight, where they may receive a slight bottom heat, in which they will strike more readily. After the cuttings are rooted pot them off singly into small 60's, and keep them rather close for a week or two until they are established. Pay great attention to stopping, or the plants will become leggy. In September discontinue the stopping unless one or so of the shoots are taking more lead than the others. At Christmas they must be repotted into 48's, using rough peat with a sixth part of sand added, keeping them in a cold frame, and ventilate freely until the following May, at which time place them out in the open air until there is danger of frost. They must never be allowed to become dry at the roots, or else they will be a failure. After they have done blooming cut them well back and treat as young plants.

*Erica cafra nana*, *gracilis autumnalis*, *gracilis vernalis*, *hyemalis*, *Syndriana*, *Wilmoreana*, and *colorans* are the principal varieties.—A. Y.

### GATES AND STILES.

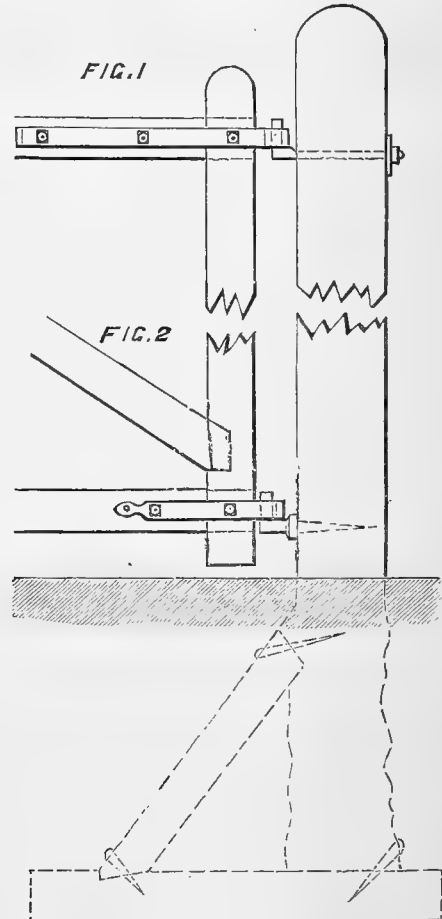
ONE can hardly travel a few miles anywhere in the country without seeing gates of bad construction—gates which do not stand up to their work. This is most observable in field gates, but is not confined to them. Some of the elaborately ornamented entrance gates and lodge gates exhibit the same want of principle in their construction. We do not refer to some of those quaintly ornamented gates which are pleasing to the eye, although it may fail to perceive any proper principle of construction at first sight, for in these gates there is a skeleton framework, which is designed with due regard to the true principles of construction, but which is hidden by the more prominent ornamental parts. These are works of art about which there can be nothing false; but we refer to gates put together upon no principle—thrown together, as it were, by guess-work, as if the constructors would trust to chance that the gates would stand up.

But the principles of construction are various, and a knowledge of them does not come by intuition; they are found when sought for, like all other principles of art and science.

The framing of all gates, whether plain field gates or ornamental entrance gates, should have reference to the suitability of the various materials to resist the various kinds of strain brought upon each piece by the suspension of the unsupported parts. Thus the heel-post is wholly supported, and its dimensions are disposed with reference to the mortices and bolt holes to be cut in it, and not upon strains to be brought upon it. The dimensions of the head post are considered in the same way, there being no strain upon it. The bars, however,

and the braces are subject to strains of various kinds. The bars resist a cross strain which is brought upon them by their own weight and by that of the head-posts, and by any accidental load, and the braces resist compressive and tensile strains accordingly as they are disposed as struts or ties.

The straps of the top bar resist a tensile strain. The hooks resist a shearing strain, but their shanks are subject to different strains—that of the top hook resisting a tensile strain, and that of the bottom hook a compressive strain. Thus the shank of the bottom hook need not have a screwed end and nut, as that of the top hook must have, nor need it even pass through the gate-post, for it may be driven in as a spike; but it must have a shoulder, which must abut solidly against the gate-post, while the shank of the top hook need not have a shoulder, but it must be fastened at the back of the gate-post either by a



Figs. 37 and 38.

screwed end and nut or by a cotter, and in either case there should be a washer-plate to afford a greater bearing surface against the wood and prevent indentation.

The top and bottom hooks and straps are seen in figs. 37 and 38.

Fig. 38 also shows the bottom of the gate-post resting upon a broad and thick sill, the foot being spiked thereto with a long jagged spike, and the post being strutted therefrom by a strut 4 inches by 4 let into the sill with a shoulder, and spiked thereto, and spiked also to the gate-post, against which it abuts with a square shoulder.

A bolt with screwed end and nut is better than a jagged spike, although this is often used instead of a bolt and nut. The action and the strains are as follows:—The weight of the gate tends to pull over the top of the gate-post; the pressure is then transferred, through the post and the strut, to the toe of the sill, tending to turn upon it as a centre, which tendency is resisted by the weight of the post and by the weight of earth upon the projecting end of the sill at the back of the post. It is therefore very necessary that the earth at the back of the

post, and indeed all round it, be well consolidated by ramming in the earth in small quantities tightly, or else that the projecting end of the sill be weighted with large stones or otherwise.

Fig. 39 is a plan. The strap of the top bar should not be less than, say, 2 feet in length, and each end should be bent inwards half an inch, and a vertical chase of that depth should be cut in the top bar of the gate, the bolts, *a* and *b*, serving the purpose merely of holding the two straps to the bar, the strain caused by the unsupported weight of the gate being taken by the two turned-down ends of the straps, and counteracted by the power to resist detrusion possessed by the surface of the wood of the length and width of the strap plus 1 inch. The power to resist a tensile force of the sectional area of the top bar left between the two turned-down ends of the straps should not be less than the power to resist detrusion

FIG. 3

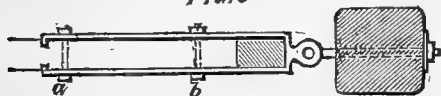


Fig. 39.

possessed by the two surfaces of wood above mentioned. This power depends upon the lateral cohesion of the fibres of the wood, and is not more per square inch than about the twentieth part of the direct cohesion or of the power to resist a tensile force. The ends of the strap should be "jumped" or thickened before they are turned down, and should be forged down square, the thickness of the ends being about twice the thickness of the strap. When the ends are thus indented they take a proper hold of the top bar of the gate, and take their bearing at once; whereas if the strain caused by the hanging of the gate be taken crosswise by the bolts, two movements take place before the bearing is taken: first, the wood is compressed by the harder substance of the bolt; and secondly, the bolt undergoes a bending action; and, from the shape of the gate, any horizontal movement here is followed by a much greater drop at the head of the gate.

To prevent this movement—or rather to correct it when it takes place—a bolt, with a screwed end and nut, is sometimes substituted for the close straps, in which case the head of the gate being raised to or a little above its proper position, the nut is screwed up, the intention being thus to retain the head of the gate in its proper position; but, on account of the action being indirect, and the strain of the unsupported part of the gate being brought upon the bolt through the intervention of the arm, upon which a cross strain is induced, the intention is not fully realised, and the head of the gate continues to drop because of the want of rigidity of the arm. To obviate this the bolt is sometimes continued along the whole length of the gate, and is made to take hold of the head-post; but this not only adds to the money-cost of the gate, but also to the weight at the head, which it is always desirable to avoid.

It is better construction to use the ordinary straps, and, before the gate is hung, to cramp the whole frame tightly together in a horizontal position, and drive in wedges of hard wood at all those joints where, on the gate being hung, the pieces of the framing are compressed together; and, to make this more effective, the cramping should be so managed as to set up each joint in a direction opposite to that which the weight of the gate will cause it to take after it is hung. We are now referring altogether to gates of wood. The joints under compression are those between the lower end of the brace and the heel-post, and between the upper end of the brace and the top bar, and also the inside of the turned-down end of the strap.

In respect to the angle at which the braces should be disposed, the more upright they are the less the strains, both on the braces in compression and on the top bar in tension, as may be shown graphically by the following diagrams:—

Let *A, B, C, D* (fig. 40), be a frame with one brace, *A, C*. Now, in the first place, if there were no brace at all, half the weight of the gate would be carried by the heel-post, *B, C*, and the other half by the head-post, *A, D*, which must in that case rest upon the ground; but in order to make the whole weight rest upon the heel-post, so that the gate may turn upon an axis, the brace, *A, C*, is introduced, upon the head of which rests that half of the weight of the gate which would otherwise rest upon the head-post.

The strains upon the framing will be as follow:—Mark *a d*

with a scale of equal parts equal to the weight upon the head of the brace—that is, half the weight of the gate. Produce *B A* to *b*. Draw *d b* parallel to the brace *A, C*, and draw *d c* parallel to the top bar. Then, by the same scale, *a b* measures the tensile strain of the top bar, and *a c* the compressive strain upon the brace.

Now let *E, F, G, H, I, K* (fig. 41), represent a gate of the same size and weight, with two braces, *F I* and *E H*, connected together by the vertical tie, *E I*, so that, together with the top and bottom bars, they make one frame. Supposing the pieces to be jointed at the intersections there will be a weight upon the first brace, *F I*, equal to one-fourth of the weight of the gate, and upon the second brace, *E H*, there will be three-fourths of the weight of the gate. Mark the vertical distances, *F e* and *E i*, accordingly, and draw the parallel lines *e f* and *i g*, also *e k* and *i h*. Then *E f* will measure the tensile strain of the top bar between *E* and *F*, and *E g* that between *F* and *G*, while *F k* will be the compressive strain upon the brace *F I*, and *E h* that

FIG. 4

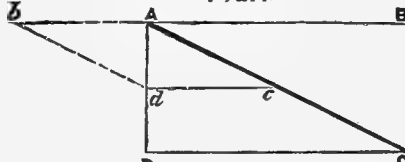
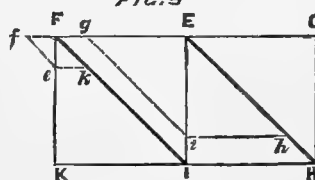


FIG. 5



Figs. 40 and 41.

upon the brace *E H*. So that all the strains are less when the braces are more upright. In what has been said above, the gate is taken to be of the same weight per foot in length from heel-post to head-post to prevent complication, the object here being to illustrate the principles only of framing gates, which form the groundwork of practice; and the rule of practice which is not founded upon principles is the "rule of thumb," which is not an admirable rule, although very prevalent amongst "British workmen." Many English carpenters can and do frame together gates, big and little, very properly, although they may have had no scientific instruction, and whose good work is owing to the good practice which came under their notice and under their hands in their apprenticeship; but for every one of these good workmen how many we see whose practice is as devoid of mind and as wooden as the gates they make!

In gates, as in all other constructions, practice must be blended with theory; neither must control the other, but each must be modified by the other. Thus theoretical instruction modifies a rude practice, and—which is the better condition of the two—a theoretical initiative should be modified by an experience of good practice. Whether the structure in hand be a great bridge or a small bridge, or merely a gate, it requires intelligent construction, and those who frame gates should seek after, until they find, the true principles upon which good work depends, even as those who frame bridges are obliged to do.—(*Building News*.)

### LITTLE HEATH MELON.

I HAVE a faint recollection that last year when I ventured to speak in terms of praise of this Melon as suitable for the amateur of small means and small ground, that a certain most excellent friend of mine said it was so poor in flavour that it was not worth the trouble. Judge of my delight, then, to find that at Dundee, at their great International Show, it took the prize as the best scarlet-flesh Melon. Now, the Judges there were no novices. They knew what they were about, and yet they gave it the place of honour—one, indeed, I should never have thought it could have attained, for although I could not agree that it was flavourless, yet there were many others that I frankly confess I should have thought superior. However,

it is an encouragement for us little folks who "swim near shore" to go on our way and be glad that we can cultivate it with but little trouble, for I have cut some excellent fruit of it of fair size, which have been grown in a common pit where I wintered my Auriculas, filled up afterwards with manure and planted. The Melons set themselves, and beyond the mere thinning-out have been grown really without any trouble whatever.—D., Deal.

### VAGARIES OF FRUITS.

EVERYBODY seems to agree in pronouncing Devonshire Quarrenden Apple a good dessert kind. This brings to my mind that I can point out several fruits of excellent character which for some reason do not maintain that character when grown here, and I have no doubt that if people would record their own experiences freely, untainted by anything they have heard or read, we should hear of many more peculiarities in different varieties of fruits, brought out by local circumstances, than are at present dreamed of. But it is a difficult matter to go in the face of all good authorities as to the merits of different fruits—one is apt to shrink from it, and try to persuade himself that he must be mistaken. I, however, think too much modesty in this respect is extremely hurtful, and that information gained from careful study and experience, however it may differ from generally received opinions, is always worth recording; and although we may be told that the fault is in the culture rather than in the fruits, we can retort that that culture suits some varieties exceedingly well. Now, Devonshire Quarrenden with me is perfectly useless; it is not eatable, and never softens till it decays. I have had two trees of it in different situations; one is already destroyed, and the other is condemned.

Another very beautiful Apple, a perfect model for a dessert fruit, Court Pendu Plat, comes good enough to look at; the shape and colour are magnificent, but it will not ripen; it keeps till spring, and then shrivels and becomes perfectly dry and tough. With regard to this variety I am seconded by my friend Mr. Ellam of Bodorgan Gardens, Anglesey, an excellent fruit cultivator, who tells me that Court Pendu Plat is no use with him, but that previous to going there he had always known it as one of the very best of Apples.

The two instances I have mentioned are exceptions, but there are some Apples which bear good characters without deserving them at all. What, for instance, is the use of Emperor Alexander, except to look at? and even then its shape is not handsome. Of summer dessert Apples I find Irish Peach, Oslin, and Kerry Pippin among the best. Amongst winter cooking Apples Blenheim Orange is, I believe, generally considered the best flavoured, but I have a bright-coloured very handsome Apple which Mr. Cramb of Tortworth pronounces Brabant Bellefleur, and it by far excels Blenheim Orange in both appearance and flavour when cooked, good as that variety is.

Of Pears, two of the best standard varieties, Louise Bonne of Jersey and Joséphine de Malines, I have never yet had first-rate, although late and early gathering and different kinds of treatment have been tried. There is always a peculiar bitterness about them. Marie Louise I succeeded with last year for the first time in having it first-rate by leaving it on the tree till the end of October. Jaminette, Hacon's Incomparable, Duchesse d'Angoulême, and Beurré Diel are always coarse and insipid. Among the best are Jargonelle, Williams' Bon Chrétien, Beurré Superfin, Fondante d'Automne, Beurré d'Amanlis, Suffolk Thorn, Doyenné du Comice, Van Mons Léon Leclerc, Thompson's, Beurré Hardy, Monarch, and Glou Morscau. The last-named requires a wall, and Van Mons Léon Leclerc is very fine from a south wall; the others are probably all best as standards in this part of the country.

Amongst Peaches, Early Ascot is not early, nor is Dr. Hogg; both of them ripen later than Grosse Mignonne and not much before Bellegarde. Noblesse is not sufficiently hardy, nor is Belle Baucé. Grosse Mignonne is certainly not so hardy as some varieties, but it is the best Peach in its season. I cannot do without it. The following are among the best:—Early Beatrice, Early Louise, Frogmore Golden, Grosse Mignonne, Bellegarde, Barrington, and Walburton Admirable. They are named in the order of ripening, and last from the end of July to the end of October; but there is a gap between Early Louise and Frogmore Golden which I hope to see filled by some of the newer kinds I have on trial.

There are many good midseason Peaches coming in at the

same time as Grosse Mignonne, Bellegarde, and Barrington, but these three form a perfect succession; they are hard to beat for quality, and the last two are especially hardy. All that I have tried of Mr. Rivers' early Peaches have good constitutions, and late kinds in general have the same good quality, the bad constitutions being fortunately more amongst the midseason fruits, and, as there is an abundance of midseason kinds there is no excuse for growing the worst. Chancellor and Prince of Wales are two very fine Peaches, coming in at the same time as Barrington, and promise to be very formidable rivals to that old favourite.

I have two Peach walls. The trees on one are trained in the ordinary way, the shoots being tacked-in as they become long enough; on the other wall the trees are a sort of compound cordons, where the shoots are kept constantly pinched back, and the difference in colour on the two walls is very remarkable, those on the pinched-back trees being coloured by far the best, although great care has been taken on both walls to prevent the fruit being shaded by foliage. A gentleman wrote a few weeks ago that he did not like too much colour, but preferred Peaches with just a blush on one side. I am obliged to confess that I do not object to see them blush all round.

The soil here is heavy, resting on clay, and the atmosphere is comparatively humid. Peach borders, of course, are artificially made and well drained.—WM. TAYLOR, Longleat.

### CRYSTAL PALACE AUTUMN SHOW.

THIS Show commenced on the 21st inst., and closed on the 23rd. It was very different in character to other great shows which have been held in the same place, where we have seen the tables groan under the weight of splendid produce of the most renowned cultivators. This year the dishes were thinly placed, so as to cover as well as possible the space allotted to the Exhibition. The Show—although fruit creditable to the growers was staged—was for "the Palace" a small show. The prizes were small, and the length of time of the Exhibition great. For once the Company have aimed at too much by offering too little. The prizes were not worth cutting and staging for—that is, not worth the risk of injury to large collections of valuable fruit. We know that some exhibitors did not stage their best fruit, but "cut according to the cloth," the same as gardeners, in common with other mortals, are apt to do. They had in mind, too, the October Show at the Aquarium; and for this Show, where the prizes were on a liberal scale, they kept their best fruit in reserve, not knowing at the moment of preparing for the Palace that the Aquarium Show had collapsed.

COLLECTIONS.—A silent yet significant comment on the "short-comings" of the Crystal Palace schedule is the fact that for the four prizes offered for a collection of ten dishes of fruit not one exhibitor was forthcoming. The class for a collection of six dishes, in which prizes of £3, £2, and £1 were offered, brought forward nine competitors, Mr. Neighbour, gardener to G. Wythes, Esq., Bickley Park, securing the first place with fruit of creditable table quality. The collection embraced good Black Hamburgh Grapes, and Muscats small but of excellent quality; a Handsome Golden Perfection Melon, Pine Apple Nectarines, Violette Hâtive Peaches, and White Magnum Bonum Plums. Mr. Bones, gardener to D. McIntosh, Esq., Havering Park, Romford, was placed second for large but not highly-finished Grapes, Read's Scarlet-flesh Melon, Bellegarde Peaches, Williams' Bon Chrétien Pears, and Morello Cherries. The third prize was awarded to Mr. Burnett, gardener to Mrs. Hope, The Deepdene, Dorking, for a collection including good Muscat and fair Black Hamburgh Grapes, an excellent dish of Early Crawford Peaches, a good Melon, Victoria Nectarines (not quite ripe), and Jefferson's Plums. We noticed in the other collections good Pine Apple Nectarines from Mr. Bristow, gardener to G. Campbell, Esq., Wood Hall, Dulwich; very fine Late Admirable Peaches and Pond's Seedling Plums from Mr. Fanning, gardener to Madame Digby, The Convents Road, Roehampton; good Barrington Peaches, Golden Drop Plums, and Williams' Bon Chrétien Pears from Mr. Taylor, gardener to J. Johnston, Esq., Hampstead Heath; and capital Muscat of Alexandria Grapes (full and finely finished), and a superior dish of Coe's Golden Drop Plums from Mr. Halliday, gardener to J. Morris, Esq., Castle Hill, Bletchingley.

PINE APPLES.—In the two classes twelve fruits were staged; some of them being very good, and none unworthy of the growers. For the best Queen, that capital Pine-grower Mr. Bond, The Beeches, Weybridge, was easily first with a handsome and well-proportioned fruit weighing 6 lbs. 4 ozs. It was only just ripe, but well deserved its place. Mr. Akehurst, gardener to S. Ope-stake, Esq., The Grove, Kentish Town, was second with a perfectly ripe and well-finished fruit weighing 4½ lbs.; and Mr. Coulter, gardener to J. Baker, Esq., Haydon Hall, Eastcott, third for an equally well-finished fruit, but about a quarter of a pound lighter than Mr. Akehurst's. The Queens varied greatly

in character, one—shown in the class for “Any other variety,” named Lemon Queen, from Mr. Harris, gardener to C. L. Norman, Esq., Oakley, Bromley—being exceedingly clear. In this class Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, had the first place with a remarkably plump and fine Charlotte Rothschild; Mr. Plummer, gardener to R. Thornton, Esq., Canon Hill Park, Merton, being second with a good Smooth Cayenne; and Mr. Toomer, gardener to W. Knowles, Esq., Streatham, third for “Abacachi” Queen, a tall conical fruit but not perfectly ripe.

**GRAPES.**—For three bunches of Black Hamburgs there were ten competitors, Mr. Cooper, gardener to M. Yeatman, Esq., Shawfield, Bromley, winning with medium-sized, compact, well-filled, and highly finished bunches, having, however, rather small berries. Mr. Crane, gardener to Mrs. Green, Logshill, Chislehurst, was placed second with large but rather loose bunches and very fine berries, but deficient in colour; and Mr. Goldsmith, gardener to P. C. Hardinge, Esq., Hallenden, Tonbridge, being third with small bunches of admirable finish and quality. In the judging of this class the first prize was awarded for quality, the second for size, and the third again for quality—a system of judging not a little bewildering to exhibitors. In this class most of the Grapes were rubbed, some of them very much so, which imparted to them a roughness which considerably marred their appearance.

For three bunches of Muscat of Alexandria Messrs. Lane and Son, Berkhamstead, were far ahead of their six competitors with very large, well-shaped, and perfectly ripened bunches, each weighing 5 to 6 lbs.; Mr. Pepper, gardener to G. W. Norman, Esq., Bromley Common, being second with small bunches but perfectly finished; and Mr. Cole, The Grove Vineyard, Feltham, third with large and full bunches, but defective in colour and finish.

In the class for three bunches of any white variety except Muscat of Alexandria, Mr. Toomer had the first place with excellently finished bunches of Foster's White Seedling; Messrs. Lane & Son being second with large but rather unshapely bunches of Buckland Sweetwater, and Mr. Oliver Goldsmith, Polesden Lacey, Dorking, third with large bunches but small berries of Trebbiano.

For three bunches of black Grapes other than Black Hamburg Messrs. Lane & Son were first with excellent Alicantes; Mr. Earp, gardener to J. S. Sellon, Esq., being second with smaller yet highly finished bunches of the same variety; and Mr. Clarke, gardener to J. Raine, Esq., Clapham Common, third for small yet perfectly ripened bunches also Alicantes. In this class three excellent bunches of Lady Downe's Seedling were exhibited by Mr. Hall, gardener to W. Stevens, Esq., Springfield, Tulse Hill, worthy of honourable mention by the regularity of the berries and the spotless condition in which they were set up. They were not quite ripe.

For the heaviest bunches of Grapes Mr. Bones, gardener to D. McIntosh, Esq., was first with Black Hamburg, weighing 4½ lbs.; and Mr. Crane second with the same variety, weighing 2½ lbs. One of these bunches was over-ripe, and the other green. The money may be regarded as thrown away, but there was not much to mourn over. In the Grape classes several of the bunches were small, while others were of fairly good quality, and more than worthy of the prizes of £1 10s., £1, and 15s. which were provided for them. For Vines in pots Messrs. Lane and Sons had no competitors. They exhibited Black Alicante, with fourteen bunches averaging a pound weight each and well coloured, and Foster's White Seedling very good.

**PEACHES AND NECTARINES.**—Twenty-five dishes were staged, Mr. Burnett, The Deepdene, securing first honours with capital fruit of Early Crawford; Mr. Goldsmith, Hollenden, being second with medium-sized handsome fruit of Reine des Verges; and Mr. Penfold, gardener to Rev. Canon Bridges, Beddington, third, for an excellent dish of Violette Hâtive. An extra first prize was worthily awarded to Mr. Holliday, gardener to J. Norris, Esq., Castle Hill, Bletchingley, for extra large fruit of Salwey. Late Admiral was well exhibited by Mr. Austin, gardener to Miss Green, Dudley House, Clapham Common, and Alexandra Noblesse by Mr. Holder, Wilmington Lodge. Mr. Tillery, Welbeck, exhibited Grosse Mignonne, very fine but much too ripe, and a good dish of Walburton Admirable, named Noblesse, came from Mr. Brown, Clock House, Beckenham.

Of Nectarines, twenty-two dishes were staged, Mr. Neighbour winning with Pine Apple of fair size and highly coloured; Mr. Penfold being second with Downton; and Mr. Jordan, gardener to J. Boustead, Esq., Wimbledon, third with Elruge. Mr. Brown, Beckenham; Mr. Tillery, and Mr. Snelling, Stoke-on-Trent, exhibited well. Except the fruit of the exhibitors named the Nectarines were small.

**PLUMS.**—These were very good, nineteen competing in the class for a single dish, Mr. Neighbour winning with Coe's Golden Drop, fine fruit but not ripe. Mr. Coulter, gardener to J. Baker, Esq., Haydon Hill, was second with an excellent dish of Transparent Gage; and Mr. Dean, gardener to G. N. L. Gower, Esq., Titsey Place, Limsfield, third for very fine

Jefferson's. Both these dishes were much superior in quality to the first-prize fruit. For three dishes there were ten competitors. Mr. Holder, gardener to J. Bailston, Esq., Springfield, Maidstone, was first with Coe's Golden Drop, Jefferson's, and Green Gage, all superior; Mr. Dean, Limsfield, being second with the same varieties, substituting Kirke's for Green Gage; Mr. Penfold was third with Diamond, Jefferson, and Cox's Emperor; and Mr. Oliver Goldsmith fourth, his best dish being Goloth.

**MELONS, FIGS, AND CHERRIES.**—In the class for Green-fleshed Melons fourteen fruits were staged, none of them being particularly handsome nor excellent. Mr. Oliver Goldsmith, Polesden Lacey, Dorking, was first with “Hybrid Green-flesh” (Golden Perfection). Mr. Ford, gardener to J. Megaw, Esq., Windermere House, Norwood, second with an unattractive oval-shaped fruit of Heckfield Hybrid; and Mr. Penfold third with Conqueror, a handsome oval-shaped white-fleshed variety, very juicy and sweet, but destitute of aroma. In the Scarlet-flesh class fifteen fruits were exhibited. Mr. Holliday, Castle Hill, winning with a very superior fruit of Scarlet Gem; Mr. Glasscock, gardener to J. Banbury, Esq., Shirley House, Croydon, being second with fine fruit of Hutley's Hybrid; and Mr. Penfold third with Eclipse, a handsomely-netted, thin-skinned, and excellent fruit. An extra prize was awarded to Mr. Oliver Goldsmith. The Scarlet-fleshed were on the whole superior to the Green-fleshed fruits.

Only four dishes of Figs were staged, Mr. Chisholm, Boughton Place, Maidstone, winning with fine unnamed fruit resembling Brunswick; Mr. Webb, Calcot, Reading, being second with Brown Turkey; and Mr. Oliver Goldsmith third with the same variety. A very fine dish of Brunswick arrived too late for competition from Mr. Miller, Southdown Nursery, Shoreham.

Only four dishes of Morello Cherries were staged, the prizes going to Mr. Jones, The Gardens, Elvetham, Winchfield; Mr. Taylor, gardener to J. Johnston, Esq.; and Mr. Harris, Bromley, in the order named for excellent dishes. Mr. Jones' fruit being especially superior.

**APPLES AND PEARS.**—These were not nearly so numerous as at the Exhibition of last year, yet many of the fruits, of Apples especially, were extremely fine. In the class for four dishes of dessert Apples Mr. Webb, Calcot, Reading, was placed first with Cox's Orange Pippin, Red Astrachan, Ribston Pippin, and Cornish Gilliflower, all of which were large and fine. Mr. W. Fanning, gardener to Madame Digby, was placed second with Autumn Pearmain, King of the Pippins, Ribston Pippin, and Margil; and Mr. Penfold third with Cellini, Fearn's Pippin, King of the Pippins, and Ribston Pippin, both the collections being extremely good. Handsome dishes of Early Julien, Jefferson, a variety stated by the exhibitor to have been raised at Frogmore, but much resembling Duchess of Oldenburgh; Cox's Orange Pippin, and extremely highly coloured Red Astrachans came from Mr. Holder, Maidstone.

In the class for three dishes of kitchen Apples there were fifteen competitors, and some fine collections were staged. Mr. Brush, gardener to Lady Hume Campbell, High Grove, Pinner, was awarded the first prize for a grand dish of Hawick King, a variety raised by Messrs. Downie, Laird, & Laing, and somewhat resembling superior specimens of Alfriston; Hollandbury very highly coloured, and rather small Damelow's Seedling. Mr. Murrell, Coleman's Lodge, Prittlewell, was second with Hawthornden, Beauty of Kent, and Warner's King, all superior; and Mr. Webb, Calcot, third with Red Astrachan fine but light in colour, Fillbasket, and a splendid dish of Blenheim Orange. A fourth prize was awarded to Mr. Penfold.

**PEARS.**—For three dishes of dessert kinds Mr. Holder, gardener to W. Balston, Esq., was placed first with Williams' Bon Chrétien, Gratioli, and “Theodore Maré” (Beurré Superfin), all fine. Mr. Penfold was second with Beurré d'Amanlis, Souvenir du Congrès, and Williams' Bon Chrétien; and Mr. Bristow, gardener to G. Campbell, Esq., Wood Hall, Dulwich, third with Louise Bonne of Jersey, Beurré d'Amanlis, and Beurré Hardy, a fourth prize being awarded to Mr. Neighbour. The fruit to which the prizes were awarded was very good and in excellent dessert order, but many other dishes were totally unripe. In the class for one dish of Pears for weight Mr. Jordan, gardener to J. Boustead, Esq., won with Calabasse Grosse, the nine fruits weighing 7 lbs. 2 ozs.; Mr. Oliver Goldsmith being second with Catillac, and Mr. George Goldsmith, gardener to P. C. Hardwick, Esq., Hollenden, Tunbridge, third with White Doyenné.

**CUT FLOWERS.**—There was very little competition in these classes. For forty show Dahlias the competition lay between Mr. Charles Turner, the Royal Nurseries, Slough, and Mr. Coppin, the Rose Nursery, Shirley. Mr. Turner was far ahead, nearly all the blooms being remarkably fine. The best of the new varieties were Barmid, white tipped purplish crimson; Christopher Ridley, scarlet; Mrs. Purvis, amber tipped with white, new in colour and of great substance; Captain Webb, buff, fine form; Royal Purple, smooth and fine; Samuel Plum-



soll, rich purple; and of the older sorts Acme of Perfection, Arbitrator, Cremorne, Flag of Truce, George Goodhall, Henry Walton, James Cocker, John Dunnington, John Standish, Leah, Mrs. Boston, Mrs. Henshaw, Ovid, Charles Leicester, Princess, and Red Rover. Mr. Coppin's blooms were smaller, yet his collection contained some good flowers. The same exhibitors were placed in the same order for twenty-four blooms of fancy Dahlias, Mr. Turner being again considerably in advance. The best twelve blooms in this class were Mrs. Standish (new), amber, the petals being tipped and striped with white, a full flower of great substance; Dolly Varden, Egyptian Prince, Grand Sultan, Laura Haslam, Miss Lilly Large, Mrs. Saunders, Pauline, Pluto, Henry Glascock, Peacock, and John Bennett. In the amateurs' class for twelve show Dahlias Mr. George Smith, Hedge Lane, Edmonton, was placed first, and Mr. Penfold, gardener to Canon Bridges, second; and for twelve fancy Dahlias the first prize was withheld, the second being awarded to Mr. Penfold.

Asters were not numerous, nor, except those from Mr. Betteridge, Aster Nursery, Chipping Norton, superior. For twenty-four quilled varieties Mr. Betteridge was first; Mr. Morgan, gardener to Major Scott, Wray Park, Reigate, second; and Mr. Brown, gardener, Clock House, Beckenham, third. For twenty-four tasselled varieties Mr. Betteridge and Mr. Morgan were placed first and second respectively; and Mr. Osborne, gardener, Conduit Lodge, Blackheath, third. Gladioluses were well and extensively exhibited by Messrs. Kelway & Son, Langport, and Messrs. Robertson & Galloway, Glasgow. As a rule the English-grown spikes were broader and fuller than the spikes from Scotland, which were tall and stately. The moist climate of Scotland appears to be more favourable for perfecting the Gladiolus than the drier districts of the south. Some of the most striking varieties are specially noticed by an "expert" in these flowers.

MISCELLANEOUS.—In this class there was a considerable number of exhibits, and many extra prizes were awarded—namely, to Mr. Turner for a collection of Dahlias and Roses; to Messrs. Paul & Son, the Old Nurseries, Cheshunt, for a collection of Roses and Apples; to Messrs. W. Paul & Son, Waltham Cross, for Roses. The Roses from these exhibitors were numerous, and for the season excellent, Marie Van Houtte was especially lovely, as also was Madame Willermoz, while such sorts as La France, Maréchal Niel, Général Jacqueminot, and other popular varieties were in admirable condition. From the extensive collection of bouquet Dahlias staged by Mr. Turner we noted as being especially attractive—Triumph, scarlet; John Sandy, orange; Vesta, white, charming; Louis Rodani, pale lilac; Dwarf Queen, crimson, purple, and white; Vesuvius, soft scarlet, fine; Red Gauntlet, Yellow Pet, and Flora Macdonald, primrose. Either for distant effect or close examination these miniature and floriferous varieties are recommended. A prize was awarded to Mr. George Rawlings, Old Church, Romford, for an admirable collection of Dahlias, amongst which as being especially worthy of mention, we noticed the Earl of Beaconsfield, maroon purple; Herbert Turner, nearly white, a splendid flower; Willie Eckford, crimson purple of great depth, and excellent; Caroline Tasker, lilac and white, charming; Queen, white and purplish lilac, fine; Acme of Perfection, yellow; Nancy, maroon, tipped white; Memorial, James Service, &c. Messrs. Kelway and Son had an extra prize for a fine collection of Gladioli; Mr. Foreman, gardener to T. Shepherd, Esq., Laurie Park Gardens, Sydenham, for Cockcombs; Mr. Davy, gardener to B. Drew, Esq., Streatham, for Vine in pot and Pine Apples; Mr. Ford, gardener to J. Megaw, Esq., Windermere House, Norwood, for a pair of excellent plants of Clerodendron Thomsoniæ; Mr. Horton, gardener to C. A. R. Hoare, Esq., Kilsey Manor, Beckenham, for three Ferns, one of which, Adiantum farleyense, has never been exhibited in finer condition, the plant being 4 feet through, and the fronds of the richest green; Davallia Mooreana was also very fine. An extra prize was also awarded to Mr. Webb, Calcot, for a collection of twenty-four varieties of Nuts. A few of the finest of these were Improved Cosford, Duke of Edinburgh, Marquis of Lorne, Princess Royal, and the Bullet Cob. This collection attracted considerable attention. Mr. Brown, Beddington, exhibited a handsome dish of Carter's Green Gage Tomato, and Mr. Neighbour excellent Red and White Currants, the fruit being very large and perfectly fresh.

First-class certificates were awarded to Mr. Betteridge for new quilled Asters of remarkable quality, and in colours alike charming and distinct. Blushing Bride, white and pink, is a splendid variety; Princess Royal, pink, is exceedingly full and fine; as also are Princess Alice and Bridegroom. Tom Thumb Oxonian, a liliuputian variety, white and violet, was also certificated. These are the last and best of Mr. Betteridge's productions, and if growers will perfect these varieties as they were here exhibited they will add a charm to their gardens which they did not possess before. Mr. Eckford, nurseryman, Swindon, had a similar award for new Verbenas Monarch, Queen Victoria, and Star of England; and Mr. Turner, Slough, for

Dahlias Christopher Ridley and Edith Turner. The former is a grand scarlet flower, exceedingly full, and of great substance—a massive yet refined bloom, and a great acquisition. The latter is a flower of fine quality; it is full and symmetrical, the colours being pure white tipped with yellow.

Prizes were also given for cottagers' vegetables, and highly creditable produce was staged. The Onions were very large, Potatoes somewhat coarse, except Snowflake. Carrots, Celery, Vegetable Marrows, Cucumbers, &c., all being very well exhibited.

The Exhibition was arranged in the eastern transept, the central table being furnished by Mr. Thompson with excellently grown table plants, the Dahlias and Asters being arranged around the hippodrome in front of the orchestra, the centre being occupied with Palms and other ornamental-foliaged plants. The fruit, &c., was arranged by Mr. Wilson, who certainly placed it to the best advantage. The awards were expeditiously made and placed on the exhibits; in a word, the Palace is admirably adapted for a fruit show, and the officials are experienced and competent; but shows worthy of the name and fame of the building cannot be expected unless cultivators are treated in a considerate and liberal manner by the Directors.

ALTHOUGH the anticipations of "A FORMER EXHIBITOR" proved correct, and the most meagre show of fruit and flowers that ever was held in the Crystal Palace was the result of the most niggardly schedule the Company ever sent forth, all those leading exhibitors of fruit who used to meet there in friendly rivalry being conspicuous by their absence, there was one point in the Exhibition which attracted great attention—that where the Gladioli were staged, and especially the stand which was exhibited by Mr. Galloway, of the firm of Robertson and Galloway of Helensburgh and Glasgow, N.B. I have attended, I believe, every metropolitan exhibition where this noble autumnal flower has been exhibited ever since it came to the front rank, and I have no hesitation in saying that such a stand has never been put up at any of them before. Mr. Galloway has now fairly earned the title of the champion exhibitor, having beaten Mr. Kelway on three separate occasions—last year at South Kensington, and this year at Dundee, and now he comes up with a stand so fine that Mr. Kelway declines the contest. He may, however, rest satisfied with his fame and with the achievements which still, I have no doubt, await him as a raiser of fine varieties. Lord Hawke was there also, and at another time his stand might have challenged much attention, but in the presence of such an exhibit as Mr. Galloway's it fell into the background. Nor must I omit a most meritorious stand exhibited by another Scotchman as an amateur, Mr. Campbell of Gourrock; he has evidently been to a good school, and is learning to show in the style and finish of Mr. Galloway.

Mr. Galloway's stand was composed of the following varieties, of which it will be seen nearly all are of French origin:—Le Phare, a magnificent bloom with fourteen open flowers on it; Lacépède, Octavie, Sappho, Reine Blanche, De Mirbel, Horace Vernet, Leda, Lamarck, Racine, La France, Fulton, Phidias, Rosita, Meyerbeer, Orphée, Marquis of Lothian, Legouvé, Madame Desportes, La Favourite, Adolphe Brogniart, Psyche, Virgile, Meg Merrilees, Rosa Bonheur, Celestine, Schiller, L'Unique Violet, John Waterer, Sirène, Isabella, and Ondine, very grand. When I say that some of these were astonishing, I only re-echo the opinions expressed by every Gladiolus grower who saw them. Le Phare we have not thought much of in the south, but here it was simply magnificent. Octavie I could never grow straight, it always went about in all directions; here it was very fine. But it is useless to single out where all was good. A word, however, must be said for Marquis of Lothian, for which a first-class certificate was awarded. It was raised by Mr. Codling of Morpeth, and is a grand flower deserving of the distinction it has obtained. In colour it approaches Lacépède, being of a rosy lilac hue; the lower segments being creamy towards the base, with a crimson feather. The flower is well shaped, and the spike compact and long, far superior to many of the French novelties of this year, which as a collection fall short of their usual excellence. Mr. Campbell's twelve comprised Orphée, very fine; Dido, L'Unique Violet, Psyche, Robert Fortune, Sirène, Le Phare, Rosa Bonheur, Canova, and De Mirbel; while amongst Lord Hawke's flowers the most conspicuous were Lacépède, Hercule, fine; Cœur de Lion, good colour, but not sufficient length of spike; Rosita, Amaranthe, beautiful soft colour; Eugène Scribe, Nestor, Christophe Colombe, a fine new sort; Virgalis, Fiametta, Murillo, Ondine, Astrée, and Cybele. Mr. Kelway exhibited a fine stand containing his own seedlings, some of which were remarkably fine, especially Duchess of Edinburgh, which has on previous occasions obtained first-class certificates.

And this is the only occasion in which the Gladiolus has been exhibited in London this year! A melancholy proof of the decline in the interest taken in florists' flowers. A talk was held at the Judges' dinner of holding a great international fruit and flower show next year at the Palace on the scale of the

Scotch shows, and it is to be hoped that it may be successful.—D., *Deal*.

### CAPE AMARYLLIDS.

*BRUNSVIGIA* (properly *Amaryllis*) *Josephina*, A. *Belladonna*, *Brunsvigia multiflora*, the *Guernsey Lilies* (*Nerine*), and the section of *Hæmanthus* represented by the old *H. coccineus*, require the same treatment with but slight variation.

All the above South African bulbs agree in flowering about September in our English climate. Soon after flowering the leaves push and continue growing during the whole winter, dying off finally in the month of May. From this time till September again the plants may be set out of doors in a warm aspect, upon a hard bottom to keep out worms, and be left exposed to sun, wind, and rain as the case may be. They will all keep perfectly healthy under this treatment, but as they differ in hardness the following difference in management must be observed: The *Belladonna Lily* and *Nerine flexuosa* will succeed simply planted out under a warm south wall even in our midland counties, also in favoured spots *Nerine Fothergillii*, but infinitely better with a glass light over them.

*Amaryllis Josephina*, however, *Brunsvigia multiflora*, and the *Hæmanthi* must be wintered in the greenhouse. A. *Josephina* and B. *multiflora* are greatly benefited by a little bottom heat about a month before the flowering period, say during August, when they may be either plunged in a Melon bed, or placed upon a warm fire or other warm berth indoors. This is not necessary for *Hæmanthus*. When their buds push the plants may be taken into the greenhouse, where they must remain till May. During the leading season they will require plentiful supplies of water. In fine seasons the *Hæmanthi* put on their most glorious colours out of doors. A huge mass of *Hæmanthus coccineus* with twenty-two heads is now in flower at Walton, and positively dazzles the eyes with its blood-red blossoms in the sunshine.

I hope I have been sufficiently explicit in endeavouring to give the real treatment of these plants, which is very little known though so simple, and I shall be happy to give any additional information if requested.—R. TREVOR CLARKE.

### KEEPING GRAPES IN AUTUMN.

Most late Grapes will now be approaching maturity. Until they are quite ripe, or nearly so, damp or decay are seldom troublesome; but when they are thoroughly ripe it is a difficult matter with many to prevent them from decaying throughout October or November. These are the two months when it is generally found that Grapes are most subject to damp and decay. In December and further on the malady is, as a rule, greatly modified, and I have known instances where the greater part of many of the bunches rotted during October, and especially November, and after that time not a single berry decayed. I do not think this was owing to any atmospheric change, but the fruit appears to become tougher in the skin after it has hung for six weeks or two months. It is thus evident that if Grapes can be kept in a perfect state of preservation for the next two months their keeping after that time will be an easy matter. I will only, therefore, note the requirements of Grapes during October or November.

Grapes are often cut and preserved with their stalks in bottles of water throughout the winter, but this plan is seldom practised until well nigh the new year, and therefore further reference to it will not form part of these notes. Lady Downe's, although very thick in the skin, is one which generally suffers very much from damp; I have found it worse than Black Alicante, or even Gros Colman, although the latter is very thin in the skin. Grapes which are well thinned do not generally decay so much as those in firm clusters; and as a partial guard against damping, all Grapes that are to hang over October and November should be more thinned-out than those which are to be cut before that time.

For the next two months the atmosphere of vineries in which Grapes are hanging cannot be kept too dry, but at the same time a warm atmosphere must be avoided. When a vinery is always kept at a roasting heat, as many are with the idea of preventing damp from rising, the fruit very soon begins to shrivel; and although the fruit is not lost through this taking place, it loses much of its value. The vinery should always be kept as dry as possible without the aid of fire heat, and when it is applied care should be taken that the top ventilators are open sufficiently to allow the moisture as it rises to escape freely.

Many people err in firing strongly at night when the venti-

lators are closed, and in the morning the dew may often be rubbed off the fruit. This is a fertile source of decay. When it is necessary to apply fire heat, which it sometimes is, especially in damp weather, the fire should be lighted on a fine day when both top and bottom ventilators can be opened wide to admit of the house being thoroughly dried; and on dull damp days give no fire heat, but keep the ventilators shut and the atmosphere as quiet as possible, and very little damping will then occur. In frosty weather when a little fire has to be kept up the ventilators should be constantly left slightly open, that the damp which rises at such times may escape and not rest on or about the fruit, and then the temperature should never exceed 40° at night or 45° during the day. As the days are generally fine when the nights are frosty no fire heat should be used during the day, and while the sun shines on the vinery the ventilators should always be opened much wider than at night. The temperature must not be kept high at one time and low at another, as this is also productive of decay.

During the time all these precautions are being taken the bunches should always be looked over twice or three times a week, and any berry which shows the slightest sign of decay must be at once removed, as one rotten berry soon affects the one next to it, and if not taken in time half of the bunch may be lost in a very short time. In houses full of plants and where Grapes are hanging it is no easy matter to keep the atmosphere dry; but careful airing and firing, as above indicated, are the only and best means of proceeding under such circumstances.—VITIS.

### THE PARKS OF LONDON.

#### REGENT'S PARK.

REGENT'S PARK was commenced arranging in 1810 from plans suggested by Mr. W. Fordyce, who at the time was surveyor of the national woods and forests.

The south side of the Regent's Park is about half a mile in length, and parallel to the New Road, which is to the south of it. The east side, nearly at right angles with the south side, extends northward to Gloucester Gate, a distance of almost three-quarters of a mile. The west side, forming an oblique angle with the south side, extends in a direction west of north to Hanover Gate, a distance of half a mile. The northern terminations of the east and west sides are connected by an irregular curve nearly coinciding with the sweep of the Regent's Canal, which passes along and within the northern boundary of the park. A sheet of water extends from Hanover Gate in a south-east direction, parallel to the west side of the park, and, curving round at a south-west angle, continues in a direction parallel to the south side to about the middle of it. Opposite the middle of the west side, an arm of this sheet of water extends at right angles to the very centre of the park. The bottom of the valley, through which Tyburn rivulet flowed in days of old, stretches from its termination up to Primrose Hill, which is nearly due north of it. Nearly two-thirds of the park, forming an oblong parallelogram, slope down on the eastern side of the valley to the former channel of the stream, and the north-east and south arms of the artificial lake which is formed by its collected waters; and which resemble, to use a simile more accurate than dignified, the arrangement of the three legs on an Isle of Man halfpenny. Within the horns of the crescent formed by its north-east and south arms is the Ring, the interior of which is occupied by the Garden of the Botanical Society. On the eastern slope, at the north end of the park, is the Garden of the Zoological Society. On the east side of the park, a little south of Gloucester Gate, are the enclosed villa and grounds of the late Sir Henry Taylor; on the west side, a little north of Hanover Gate, those of the Marquis of Hertford.

Regent's Park is thought by some people to rank as the first of our metropolitan parks. It is at any rate the largest, covering as it does about 470 acres, and the centre is to a great extent an open green plain, free almost from trees. It is set apart for pedestrians only. Vehicles are kept on the outskirts, where there is as good a road as the lovers of equestrianism can desire. This centre is in many respects well adapted and often used for military display, policemen's drill, and a cricket ground for the people. It has a most beautiful surrounding of trees, clumps of shrubs, some fine pieces of ornamental water, with islands clothed with evergreen shrubs, and the banks with weeping trees, forming excellent cover for the waterfowl to retire into. The margin of this park is very much diversified—wood and dale, and at intervals noble

mansions and picturesque villas are scattered about, half hidden by trees and shrubs.

On the north side the Zoological Garden, with its lofty trees and picturesque buildings, has a very pleasing effect, and further back Primrose Hill. On the south are the Botanical Gardens; and on the west are rustic bridges, ornamental waters, and stately trees. On the east side the flower garden is very tastefully laid out, showing both the English and the Italian style. The English consists in an imitation of nature. This has been accomplished, for here we have an undulated surface, serpentine walks, and different-shaped clumps, containing selections of the finest kinds of flowering and evergreen trees, of which some of the more striking are also planted on the grass, and have now attained considerable size. The flower beds are simple in form, judiciously placed, and effectively planted.

The Italian garden is divided into two parts by an avenue

of Horse Chestnuts, which is said to be the finest in or near London, Bushey Park included. It is nearly a mile long. The trees are not so large nor so lofty as the trees that form the avenues at Hampton Court, but certainly they are of better form. The trunks are straight and clean, and the heads are very symmetrical. It is hardly possible to imagine any object more gorgeous than this avenue when the trees are studded with millions of pink and silver flowers. In the Italian garden the decorations are brought skilfully into harmony with the natural beauty of the flowers. Handsome vases are judiciously placed and filled with suitable plants, and form striking objects. There are also many fine Yuccas planted singly in lines and in masses, the beauty of which is striking when in flower. Their great panicles of pearly-white bell-shaped blossoms contrast with such plants as the Pampas Grass, the Palms, Conifers, variegated Hollies, and several other decorative plants. The Yuccas are permanent in character, being ornamental in

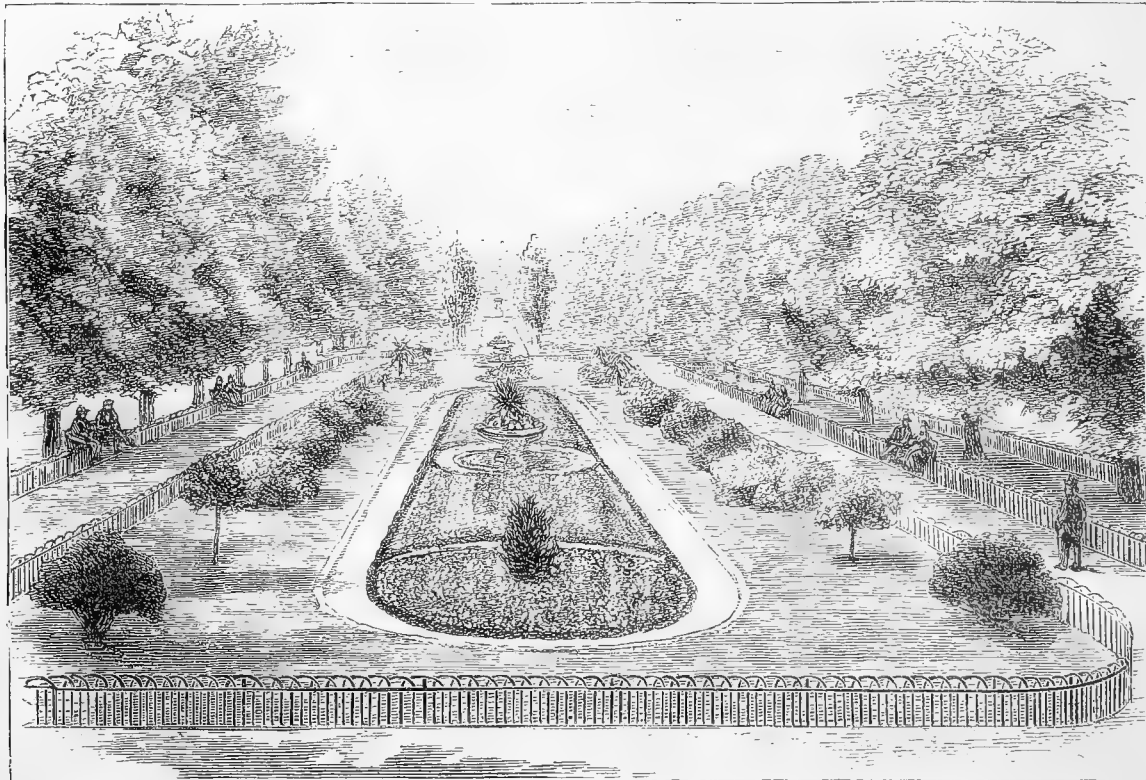


Fig. 42.—REGENT'S PARK—THE ITALIAN FLOWER GARDEN.

winter as well as in summer, and also another great advantage which they possess is the vigorous growth they make in town gardens, where many other plants fail. The same may be said of the Rhododendrons, for the London smoke seemingly has no injurious effect upon them. They are as handsome here as they would be in the country, for when properly treated at the roots the smoky atmosphere does them no harm. Standard Rhododendrons and other round-headed plants are in keeping in an Italian garden, and have a good effect when planted on the turf as they are here.

The flower beds are edged with Box, the small walks gravelled, and the outside border next to the grass has an edging of Anston's stone, which gives to the whole a neat compact appearance, then comes a broad strip of turf. On this single specimens of choice shrubs and other plants are grown, all guarded with a neat wire fence. Upright Lombardy Poplars are planted at regular distances on each side of the straight walk. The hedges are neatly clipped, the grass closely shorn, the gravel walks smooth and clean, and the flowers of low-growing kinds.

Regent's Park might rest its floral reputation on well-known and familiar favourites. Geraniums of all kinds and colours are here found in profusion, and other well-known plants glowing with colour—masses of Heliotropes that load the air with perfume. Small delicate-coloured-leaved plants are used

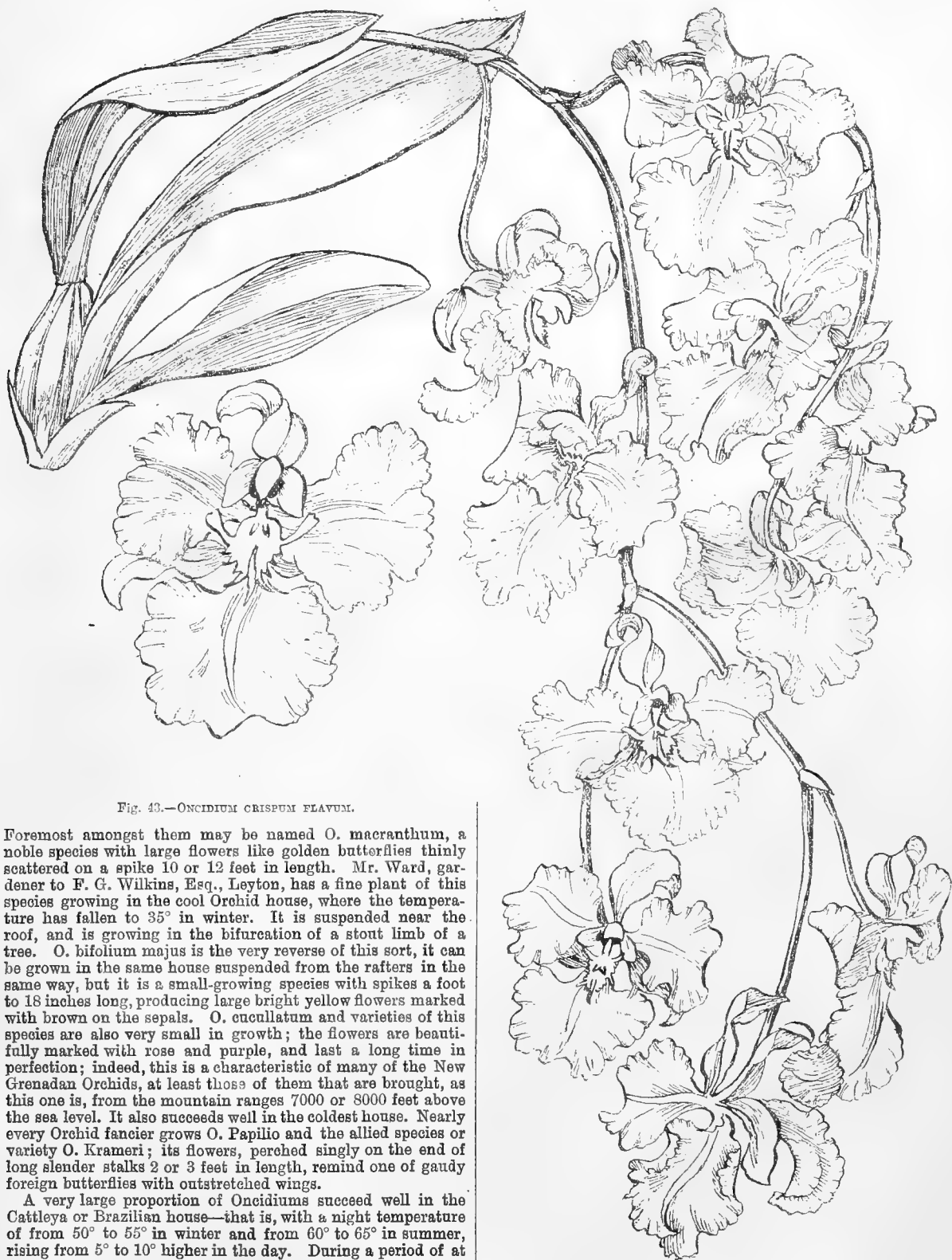
for edging other taller subjects, exhibiting a nicety of art. All the plants are well grown and skilfully displayed.

Mr. Iverson has charge of this flower garden, and he displays a mastery in the way in which he manages to combine the most gorgeous of bedding plants with a general assemblage of less gaudy and less formal subjects; and it is well he has for a superintendent Mr. Edwards, who has himself a keen eye for the beautiful.—N. COLE, *Kensington*.

#### NOTES ON SOME SPECIES OF ONCIDIUM.

The genus *Oncidium* is a very extensive one, and the largest number of the species are exceedingly showy and free-flowering. They are also, very nearly all of them, of easy culture, which is an important point in their favour. Some of the species are very robust in growth, requiring considerable space for their development, and are not adapted for small houses and for limited collections of select varieties, though such species as *O. sphacelatum*, *O. altissimum*, and others are very useful in mixed collections of plants, as they throw up numerous long spikes of flowers which come in useful for cutting where a large supply is wanted. The above two sorts succeed best in the plant stove.

A few sorts are well adapted for culture in cool houses, and ought to be in the most select collection of Orchids.

Fig. 43.—*ONCIDIUM CRISPUM FLAVUM*.

Foremost amongst them may be named *O. macranthum*, a noble species with large flowers like golden butterflies thinly scattered on a spike 10 or 12 feet in length. Mr. Ward, gardener to F. G. Wilkins, Esq., Leyton, has a fine plant of this species growing in the cool Orchid house, where the temperature has fallen to 35° in winter. It is suspended near the roof, and is growing in the bifurcation of a stout limb of a tree. *O. bifolium majus* is the very reverse of this sort, it can be grown in the same house suspended from the rafters in the same way, but it is a small-growing species with spikes a foot to 18 inches long, producing large bright yellow flowers marked with brown on the sepals. *O. cucullatum* and varieties of this species are also very small in growth; the flowers are beautifully marked with rose and purple, and last a long time in perfection; indeed, this is a characteristic of many of the New Grenadan Orchids, at least those of them that are brought, as this one is, from the mountain ranges 7000 or 8000 feet above the sea level. It also succeeds well in the coldest house. Nearly every Orchid fancier grows *O. Papilio* and the allied species or variety *O. Krameri*; its flowers, perched singly on the end of long slender stalks 2 or 3 feet in length, remind one of gaudy foreign butterflies with outstretched wings.

A very large proportion of *Oncidium*s succeed well in the Cattleya or Brazilian house—that is, with a night temperature of from 50° to 55° in winter and from 60° to 65° in summer, rising from 5° to 10° higher in the day. During a period of at least three months in summer no artificial heat is needed in the Cattleya house. *O. ampliatum majus* is one of the very finest of the species; it produces long branching spikes of flowers in May and June, which are of large size and produced in abundance. It is well known to frequenters of the early exhibitions in London, as it is almost indispensable in a col-

lection. Another strong point in its favour is the fact that it is very easily grown in pots half filled with clean potsherds and then a layer half an inch thick of clean fresh sphagnum moss, then a compost of tough fibrous peat, chopped sphagnum, and potsherds in equal proportions. The plants require



to be kept moderately moist when in full growth, but the resting period must be marked by a very limited supply of water—just enough to prevent the bulbs from shrivelling. It is a native of Guatemala. Then there is the rare and magnificent *O. splendendum*, which requires very similar treatment. It is very seldom seen at exhibitions, not because it is not adapted for exhibition purposes, but because it is so very rare that very few persons are in possession of the plant. I have seen it only once in flower, and that was a very fine plant exhibited by Mr. W. Denning some five or six years ago in one of the choice collections he exhibited at South Kensington. The plant had one strong spike about 2 feet long with a dozen expanded flowers of large size; the sepals and petals are dull yellow blotched and barred with purplish brown, with a very large expanded lip of a rich bright yellow. It is also from Guatemala. Another equally rare species is *Oncidium Rogersii*. It is from Brazil, but does well amongst the Cattleyas, and requires the same treatment as *O. ampliatum majus*. The finest plant in existence is that in the rich collection of Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea; it produces a large branched spike annually in November, containing upwards of two hundred fully expanded flowers at one time. The spike is not erect like *O. splendendum*, but arches over gracefully. The flowers are of a beautiful golden colour, and are from 2 to 3 inches across the lip.

*Oncidium crispum* and the variety *flavum* are natives of the Organ Mountains. They also succeed best in the Cattleya house, but must not be grown in pots with peat and sphagnum, for such Orchids cannot bear much organic matter to come in contact with the roots. *O. crispum* succeeds best on a block. The plant ought to be fastened to this, and the base of the block should be placed in a pot, and the space between it and the sides of the pot should be filled-in with clean potsherds. The roots require water daily, but avoid watering the leaves and pseudobulbs. The flowers are of the uniform shade of a copper-coloured Indian. *O. crispum marginatum* is of the same colour as the type, but the sepals and petals are margined with bright gold, while *O. crispum flavum* is of a uniform coppery yellow with scant markings. This fine Orchid has received a first-class certificate during the present year, and the plant has attracted much notice at several exhibitions, where it has figured prominently in the collections arranged by Messrs. Veitch, and from which plant the accompanying figure was taken.—J. DOUGLAS.

### THE CULTURE OF TOMATOES.

Not many years since the Tomato (*Solanum Lycopersicum*) was only grown in a few gardens, and then in some cases only for ornament, but the rapidly increasing demand for this highly ornamental esculent has now to be part of the study of nearly every gardener, however small and meagre may be his convenience. The Tomato is highly esteemed by most owners of gardens, and also by gardeners, who usually exhibit a collection of vegetables in the early summer, when a dish of Tomatoes is found an acquisition and a very strong point in favour of the exhibitor.

Tomatoes are so esteemed by my employers that they would use them in some form every day throughout the year were they obtainable, oftentimes using them cut into slices similar to Cucumbers, and served uncooked with oil. To meet this demand it occurred to me (for want of other room) that the plants might be grown in pots on a shelf in the apex of a small house, which place I found very suitable, and the plan proved a success. This mode of culture I have practised now for several years. During January or early in February I well drain an 8-inch pot, three parts fill it with soil, and sow some seed of the Orangefield Dwarf, and plunge the pot in a common hotbed; the seed will rapidly germinate, and in a few days the plants will appear. As soon as large enough I carefully thin them out, leaving about twenty-four of the strongest; this prevents the young seedlings from being overcrowded and drawn up weakly. By sprinkling a little soil around and between them they emit roots further up the stems, and remain short and sturdy. When about 3 inches high they are found strong enough to handle safely, and are potted in 5-inch pots. I pot them as low as possible, and replace them in the hotbed again. As soon as well rooted they are shifted into 9-inch pots, using a compost of turfy loam, and it is astonishing, if well fed, what a large quantity of excellent fruit of this variety can be produced by plants in pots of this size. After shifting them to their fruiting pots they are placed on a shelf near the

glass in a Cucumber pit, vinery, or even a warm greenhouse (my only convenience at that time was a warm greenhouse), and are kept close for a few days. After the roots have begun to move freely the plants have plenty of air and all the sun they can possibly have. Many of them soon require staking, and by the time these pots are full of roots the plants begin to show flower. As soon as two or three clusters of blooms show I nip off the points of the main stem, and remove all subsequent growths as they appear. When the fruit is large enough to discern their shape they are thinned out with a pair of scissors, removing all which are faulty or corrugated, carefully retaining such as are likely to become large, smooth, and handsome fruit.

The plants are grown on as fast as possible, taking care to keep them stout and stocky and well supplied with clear and liquid manure water. Occasional doses of soot water are very beneficial to them—in fact Tomatoes are very gross feeders, and are among the most thirsty plants in cultivation. When exposed to the full influence of the sun on a shelf, turf sods—such as the edgings of turf from the sides of walks, and short manure placed around and between the pots—prevent the moisture from rapidly drying out of the pots, and the roots ramify into the rich material, and from it the plants obtain much nourishment. As the fruit increases in size it is found necessary to support some of the clusters with bast suspended from the tops of the stakes.

The Orangefield Dwarf grown in the above way and kept close to the glass will carry a good crop of fruit, and the plants will not be more than 18 or 20 inches in height from the top of the pots. It is only on account of its dwarf habit that I advocate the growing of this prolific variety, for since the introduction of Hathaway's Excelsior it has in several points superseded the above, more especially for its earliness and smoothness, it being the very perfection of shape, and if planted out in any convenient place under glass and kept well stopped it will produce abundance of handsome fruit. I have found the fruit of this variety if subjected to a close atmosphere liable to crack, which is not the case with the Orangefield.

The Tomato is readily increased by striking cuttings. A few plants kept through the winter will furnish plenty of cuttings, and these if rooted will become fruiting plants sooner than others which have been raised from seed; but in my opinion the success of fruiting Tomatoes early depends in a great measure on the stopping of the plants.

I have planted them out on a south border after carrying a crop of fruit in pots, and trained and stopped them in a bush-like form to stakes, and they have carried the second crop. Whether planted against walls or in an open piece of ground attention must be paid to stopping and watering, and every means rendered to enable the fruit to ripen as soon as possible before the chilly nights and early autumn frosts set in. All such as are not ripe must be gathered and placed under cover where they will ripen. In cold wet seasons they are liable to a disease similar to the disease in Potatoes.

With regard to the announcement that "the introduction of Tomatoes into the vinery will prevent wasps eating Grapes," I have to say that I have tried the plan during the past few weeks, and have found it absolutely useless for the purpose recommended.

The variety recently introduced by Messrs. Carter & Co., called the Green Gage Tomato, is very pleasing in appearance and is good in quality, but as a rule it does not grow so large as some others; but one plant I saw had fruit on this year as large as the fruit of Hathaway's Excelsior, which is possibly one of its parents, the growth and foliage being very similar.—J. W. MOORMAN.

### ASPECTS OF NATURE.—SEPTEMBER.

SEPTEMBER is a month not only peculiarly charming in itself with its softened sun and various tints of autumn foliage, but it is dear to us as the last darling of summer, whose latest breath will lead us to chill October's wintry arms.

The present has been an exceptional season, for such blustering winds and heavy rains as we have lately had have this year, indeed, much changed the aspect of the month. Generally it is the time when we enjoy all the full fruits of autumn, while the daily declining sun sheds a mellow light on hill, dale, and mere, and the tranquil skies form a fitting background to the peaceful richness of the landscape. In the woods and fields we miss many of our summer favourites; the wild flowers of the month are neither so gay in colours nor so per-

fumed as their earlier sisters of the spring. Those who would gather them must leave the well-trodden paths and seek for the flowers by the sides of rivers and streams, up on the hillsides, and away over the purple moors, where the blooming heather gives local character and colour to wide expanses of country.

The trees also are fast losing their full foliage or changing the greenery of their summer's prime for the manifold rich tints of their autumnal days. Few of the trees have yet lost their leaves. The *Acacia*, with its graceful pendant foliage that trembles in every passing breeze, is almost as verdant as at midsummer; while the Walnut has changed his darker hue for a brilliant tint of yellow. The Horse Chestnut and the Mulberry are fast losing their summer garb, while the Cherry is turning to crimson, and the Virginia Creeper returns brilliant blushes in exchange for the warm kisses of the setting sun. The Hawthorn berries are ripening, and the foliage of this the sweetest of our wayside trees is gradually changing from green to brown, then to brownish red, and soon as the early frosts have touched it with icy fingers, it will vie in hue with its rich store of dark red fruit. So wet and cold has been this usually delightful month that the birds have already had recourse to the half-ripened berries of the Thorn; a sudden noise at morn or eve will send dozens of birds from many a wayside bush.

It is now the season when the nimble squirrel gets his best feast of Hazel nuts, while leaves still hang plentifully on the trees, and the frisky puck cannot be seen by the prying eyes of the schoolboy who seeks his haunts to lighten his store of winter food. This month also our favourite wayside dainty the Blackberry should be in perfection, but rain such as we have had quite destroys the flavour of this fruit, which is really at its best when gathered in the full sun of an October noon after a light frost overnight; the ripened berries shine out lustrous black, and every tint of the diversified foliage of the Bramble is seen, as well as the pure white or pale pinky lilac blossoms of this beautifier of our hedgerows. The blackbird and thrush now resume their joyous songs during fine days, and the goldfinches again sing. This pretty gay-feathered songster, called by the country people in Derbyshire the "proud tailor," may be seen feasting on the seeds of the Thistle. The fieldfare and the redwing arrive this month to find their winter food of Hawthorn berries on our well-garnished hedgerows; they seek also the exquisitely beautiful wax-like berries of the Yew.

During this "season of mist and mellow fruitfulness" many other birds are often tempted to pour forth notes of gladness, as though the autumn sunshine bore on its beams a promise of another spring. At this time of year two most beautiful English rural pictures may be seen at either corner—east or west—of our little island.

"With ruddy fruit the orchard now is hung,  
The golden Hop droops pendant in the breeze,  
For Autumn from her ample hand hath thrown  
Her richest treasures on the laden trees."

In the "Garden of England," as Kent is called, although many another county in our lovely island might contest the proud distinction of such a title, the Hop harvest is at its height, and many picturesque groups may be seen where the sturdy labourer lifts the pole with its graceful encumbrance of twining bine and carries it to the merry group of women and children who are waiting to strip it as rapidly as possible of its golden treasure. In Devonshire, England's "pomaceous harvests, breathing sweets," blush in every orchard. There the bent and gnarled trees, all venerable with age, their hoary limbs encased in grey-green moss and lichens, offer each season an overflowing store of fruit which, untended, ungathered, grows years after year and drops with mellow richness from the laden boughs on to the thick greensward beneath, until the early frosts have imparted to it the exact flavour so desired by epicures, when it is carted away to the press to be made into Apple wine.

One of the most beautiful features in the landscape at this season is the Bracken, which lights up the scene with its rich fronds—now golden brown, now light as gold itself, or perhaps a few leaves still bear a tint of their original verdant hue. Although the glorious motley of the trees is the most striking object this month, the wild flowers have not quite departed; the stately Golden-rod may still be seen, and the wild Snapdragon finds a congenial resting place on old walls and waste places. In the fields many small bright flowers may be gathered. The tiny Pheasant's-eye still peeps from the stubble; the pretty quaint name given by our grandmothers to this flower was Rose-a-ruby. In the same localities the wild Pansy

will grow side by side. This pretty wildling goes in Germany by the name of "Stepmother," in Poland by that of "Brothers-and-Sisters." On a fine day, when

"All heaven and earth are still, though not in sleep,  
But breathless, as we grow when feeling most,"

many a modest wayside flower may be gathered, and what is wanting in brilliancy of colour will be amply compensated for by beauty of form.

The meadows at this season are often as green and fresh as in spring, but they are not gay with Flora's smiles. In place of delicate blossoms they often bear a rich harvest of food in the shape of Mushrooms, which now rise, as it were, spontaneously from the sod, and after dewy nights sprinkle the meadows with balls of snow, or cluster in groups of yellow or brown fungi above the roots of large trees in park and forest. Before the end of the month almost all the corn is garnered, yet in the mountainous districts of Wales and the north of England it still stands, and in unfavourable seasons the stooks are dried by the earlier breathings of October winds. In the southern and midland counties the stubble fields are given up to the sportsman;—

"In his mid-career the pointer, struck  
Stiff by the tainted gale, with open nose,  
Ontstretched and finely sensible, draws full,  
Fearful, and cautious on the latent prey,  
As in the sun the circling crowe back  
Their varied plumes, and, watchful every way,  
Through the rough stubble turn the secret eye."

—T. S. J.

### PETROLEUM HEATING THE BOILERS OF HOTHOUSES.

We have been so very successful in making jam by one of these stoves, the copper vessel containing the jam having been set and kept boiling, that it has occurred to me that the same, or if desirable a larger stove, would easily keep a boiler at the required temperature (under boiling I believe), for heating a hothouse.

The stove we used is one of the new and improved burners, the wicks being only two in number, and under 3 inches in width. From my experience of the old stoves, which I have used for two or three years for heating bedrooms, I feel sure there would be no difficulty in keeping a stove burning for eighteen or twenty-four hours at any set temperature; and the ease with which these boilers could be kept at any given heat for the time above mentioned, with the very small amount of care and attention they would want, ought to make them, if properly made and supplied, very valuable, and from the price of petroleum I cannot help thinking cheaper than coke, when it is remembered that there is no waste in lighting or putting them out.—W. T. F. M. INGALL.

### NOTES OF A SCOTTISH TOUR.—No. 4. DRUMLANRIG.

"If you are going to visit Drumlanrig you will see the most finished piece of gardening in the three kingdoms." Such was the observation made to me by one who ought to know; and I can only say after having visited it, as far as my experience goes the judgment is correct, for I have never seen such thoroughness in all the departments of a garden as I saw there. Everything was clean and tidy to a high degree. All the plants requiring stakes were carefully supported, the walks were excellent, and not a weed was to be seen throughout: and now in my poor way I must strive to give an idea of this fine garden.

No two places can be more distinct in character than Castle Kennedy and Drumlanrig. In the former we see a place struggling into existence as it were, for all the deeply interesting part of it is new as I have explained, while at Drumlanrig everything that age can give to a place is present. The old house, the magnificent trees, all tell of an old baronial residence, and give a groundwork for so able and intelligent a gardener as Mr. Thomson to work upon; while, embosomed as it is among hills where the most luxuriant foliage abounds, it has a very different appearance to the somewhat bare character of the scenery around Castle Kennedy. Nothing can be imagined more princely than the general aspect of the place; while, as I shall endeavour to explain, the more one explores it the greater the interest it excites.

On entering the grounds from the Thornhill station one comes at once to Mr. Thomson's house, built on an eminence overlooking the kitchen garden, and replete with the comforts and

conveniences which a thoughtful employer will always see that his employees have. There is probably no one except the steward on whom so much depends as the gardener, and it is a poor policy not to treat him as he deserves. Here from his vantage ground Mr. Thomson can overlook the twelve acres of kitchen garden and see at a glance if all is going on right. On entering one is at once struck with the extreme neatness and order of everything. Outside the wall there is a long border of herbaceous plants, not growing in the admired disorder one so often sees them in, but each in its place with a good legible label attached. On the opposite border and nearer the wall is another long border; at the back a grand row of Delphiniums, each well staked and showing the noble spikes of bloom; in front of them three or four rows of Phloxes, including, of course, all the best of the late-flowering kinds; then Carnations, Roses, &c. On entering the walled garden there is a long range of houses, pits, frames, &c., in which is a fine collection of stove and greenhouse plants, Vines, Peaches, &c., but none of them in a forward state, everything being arranged to suit the visit of the noble proprietor the Duke of Buccleuch, who comes here after the London season for shooting; so that everything has to be arranged for that time, all the requirements of the family during the London season being met by the resources of Dalkeith Place near Edinburgh. In front of the vineries was a long wide border of *Viola cornuta* Perfection in splendid bloom, the centre filled up with the golden variegated Periwinkle and bordered with *Alyssum*. This lasts up to the time of frost, and certainly nothing can be more effective. All this country seems to be the very paradise of the *Viola* tribe, the excess of moisture suiting it well, whereas down south they are burned up. There are 48 inches of rain at Drumlanrig, while with us not more than 21 or 22 are the average. All Mr. Thomson's care has not been able to ward off the ravages of the *Phylloxera*, and one house had to be destroyed entirely, the only way of eradicating it being to stamp it out. This has been proved to be the experience of all our best cultivators, and happy are they who have not been required to put this experience to the test. And let me say, as a proof of the manner in which things are done here, that the flue of the chimney into which the smoke from the furnaces goes is carried half a mile away amongst the woods, and that the same is done with the kitchens at the mansion, so that no inconvenience from the smoke is felt.

But it is on leaving the kitchen garden that the special glories of the place burst upon you. You enter woodland walks, at every turn of which some new point of interest, some glorious bit of scenery, bursts upon your view. The extent may be gathered from one fact—there are seventy-five miles of drives and the same number of miles of grass walks to be kept in order. And then all at once your eye rests on the pleasure grounds, of which there are fifty acres, some laid out in bedding surrounded by grand timber, and with acres of Laurel hedging, every bit of which is kept close cut with a clasp knife, no shears being allowed to be used. In the lower gardens (for as the house is situated on an eminence the gardens rise up in different levels) there are some beds of *Heather* kept closely cut, and the tender lively green of this is very charming; in others *Oak* hedges neatly trimmed are used, and *Verbena venosa* is much more largely employed than I have seen it in most southern gardens. Then at another part is what is called the Duchess's garden, where many of the old-fashioned flowers are to be found, and the air is sweet with Carnations and other plants such as were to be seen in the Lady Corisande's parterre. Then there is the Sand Garden, in which the pattern of the beds is run out in *Heather* on white sand, tons of freestone being broken up every year for this purpose. On another terrace one comes to an exquisite piece of carpet bedding, arranged with great skill and with a true artist's eye; and then all around the scenery is so grand, the setting of the green so perfect, that one is at a loss which most to admire—the exquisite taste and refinement of the gardening or the beauty of the scenery around. I need not say that there is a most liberal supply of labour, for no place could be kept in the perfect order that this is without that.

I am quite aware that this is a very imperfect attempt at setting forth the beauties of Drumlanrig. But what can one do? How many a time have I read graphic descriptions of places, but which when I saw them turned out to be so very different to one's expectations. I would gladly have added an engraving from a photograph, but it is forbidden; and I have only left to me now to record my obligations for the kindness

and hospitality with which I was received by one who holds so high a place in his profession as Mr. Thomson.—D., Deal.

### STRIKING CUTTINGS.

VARIOUS modes are adopted in striking cuttings, and the following American plan is recommended in the *Rural New Yorker* as being simple and effectual:—

"A flower-pot 8 inches in diameter answers as well as any other size, though of the two a larger rather than a smaller is to be preferred. Place an inverted flower-pot saucer within the pot, of a size large enough to rest about midway or a little below. This serves the threefold purpose of (1) perfect drainage, of (2) affording a firm base for the sand, and of (3) dispensing with a greater body of sand than can be of any use. Of course, other drainage material may be used if saucers are not at hand—but we prefer the saucer for the reason that it has given us better success. Aside from any philosophical causes as to its greater efficacy, its use is less troublesome than to half fill the pot with broken crocks, stones, moss, or what not; it is a cleaner method; the weight of the pot is less, and that it is more effectual in practice will appear to others as it has to us upon giving both a fair comparative trial. When there is bottom heat perfect drainage is of little moment, since the immense evaporation caused by the heat and shallowness of the boxes generally used renders it unnecessary. But without bottom heat, unless the drainage is perfect, the water very soon stagnates, and the resulting acids cause the cuttings to damp-off at once.

"With the space in the pot beneath the inverted saucer empty, let us fill to the brim above with coarse sand, as coarse as is used for mortar—first sifting and washing it until thoroughly cleansed. Place it on a rack or stand in a window which receives the morning sun until noon and saturate it with water. Another saucer or some other vessel will be required to receive it as it passes through. We need not, as when flat boxes are employed, so much fear watering too much, because the water passes freely away and can never become sour. It is only necessary, however, to preserve the sand constantly moist.

"An 8-inch pot will accommodate twenty cuttings. Make them from 2 to 5 inches long, depending, of course, upon what they are. At this season of the year more leaves may be permitted to remain upon them than earlier in the season, when the sun is higher and the air less cool and moist. Use a sharp knife, and make smooth cuts just beneath the joints or nodes—strip off the leaves nearly to the top, and insert them about an inch in depth.

"The development of new leaves or buds will generally indicate the proper formation of roots, when the cuttings are to be pricked out and planted in small pots of rich sandy soil.

"One of the greatest drawbacks to the thrifty growth of house plants is the use of clayey soil that, becoming hard—almost solid in fact, is impervious to both air and moisture. The plant must suffer, and all the doctoring in the land is not going to help it while thus strangled.

"As to the number of leaves to be left upon a cutting, a little experience is required to determine. If too many are left the cutting is exhausted, and the formation of a callus (which is simply the healing-over of the wound) and roots is retarded. If all the leaves are cut off or too few are left the same effect is produced, though from a quite different cause. No better hint can be given than that the drooping of the leaves for any length of time after the cuttings have been inserted is an indication that they have too many. Where a leaf is too large it may be cut in two, as in the case of *Aristolochia siphon* (the Dutchman's Pipe), *Hydrangea quercifolia*, &c."

### THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 12.

A BOTANIST whose standing in science gives him a right to be heard demurs to my assumption that the Blacklands estate, situate in Chelsea and Pimlico, was so called because the ground was darkened with an undergrowth of a species of *Heath*, probably *Erica tetralix*. I grant the difficulty there is in establishing a negative, and therefore allow my opponent all the chances I can; but it by no means follows, because at a time when England boasted so few botanists no one recorded the occurrence of this *Heath* on Chelsea Common and the adjacent Blacklands, that the species did not grow there, for from more than one reference to this district by historians who make no pretensions to be naturalists, we gather that it

was covered with Heath and Furze. The Heath, it is true, might be the well-known common Ling (*Calluna vulgaris*); but as the *E. tetralix* has been in recent years obtained from such open places in Middlesex as Hounslow and Hampstead Heaths, the soil and circumstances of which place them in near relationship to Chelsea Common as it was in Stuart times, the conjecture that some species of *Erica* may have grown there freely cannot be deemed a very wild one.

Concerning this Blacklands estate, on a part of which, as already stated, the Sloane Street Nursery was formed, it should be said farther that when, in the early part of this century, houses began to spring up on the "eligible sites" it offered, a large portion of it to the west of Sloane Street still retained a semi-rural aspect. A road, now lined with houses and called the Marlborough Road, seemingly formed its boundary to the west; and it is singular that this road, now of minor importance, is of much older date than the far more frequented Sloane Street, which leads directly from Hyde Park to the Thames. In this road and on the Blacklands property was an old house and grounds once belonging to Lady Matthews, then afterwards used as a tavern and the ground cleared for a cricket field. Whether the next stage in its history was its being built upon is not ascertainable; if intermediately it was occupied by one of the market gardeners who had land, some seventy or eighty years ago, on the southern side of this estate, it would be curious, since we have a modern instance in this same neighbourhood of a nursery ground becoming a cricket field. At the period to which I am referring the situation of the private residence called the "Pavilion" must have been an agreeable one, for it had a considerable extent of park-like land belonging to it, and on three of the sides there must have been situate nurseries or market gardens. This "Pavilion" is now being demolished to make way for a new line of road, and he who wills may wander over what yet remains unbuilt upon of the grounds, which are memorable because they once bore touches of the handiwork of the celebrated "Capability Brown," landscape gardener, and, on his own testimony, almost divine in the skill he had in making art equal or even surpass nature. The unkind critics, however, made much fun over his landscape scenery, with its central pond or winding stream, its formal tree clumps and background of shrubs. Did he invent or only re-introduce here the "ha-ha fence," once so admired? The chronicles of horticulture are not clear on the point.

Of the market gardens once in the angle between Marlborough Road and Cadogan Terrace the history is also a blank, unless it is to be supposed the King's Road Gardens extended as far northward, which is very unlikely. And I would here take the opportunity to say, that towards ascertaining the history of nurseries which have long disappeared and left no trace the exertions of one individual cannot effect much. There are doubtless yet living, and resident in London, persons who have recollections of their own of extinct market gardens of half a century since, or family traditions going back further still. Any duly authenticated facts, if communicated to the office of this Journal, will be gladly received and acknowledged by the author of this series of articles.

Nearer Knightsbridge, and on rather higher ground, but belonging to the Blacklands estate, and north of the "Pavilion," was Catleugh's nursery and market gardens, well known in the Georgian era, and not yet out of existence, though the land has grown "small by degrees and unheavily less." Evergreens and a choice variety of exotics were reared here successfully and profitably before the torrent of suburban life set westward. Pines also were cultivated largely, to find a ready sale when the importation was but small. The erection of the church and schools of St. Saviour's, Upper Chelsea, absorbed a part of the land used as a market garden, and about six or seven years ago another part was cleared to form the Prince's Cricket Ground, much honoured by fashionable folks of this day. Mrs. Catleugh died five years since, and the present owner anticipates that he will have very speedily to relinquish, for local improvements demand even the small space now cultivated behind Hans Place. Perhaps, under circumstances, the disappearance of the nursery is not to be regretted, since only one greenhouse survives, and the open ground is found chiefly available for the cultivation of—Rhubarb. Knightsbridge, let it be observed, must have been a capital screen to the old Chelsea market gardens at the period when it had only a house or two upon its edge, and thick shrubberies which, rising toward the north and east, would shut off the keen winds; for it is quite evident that Knightsbridge, which took its name from the king's or knight's

bridge over a little brook, was originally a portion of the same large forest which stretched northward from Hyde Park towards the hills of Highgate and Hampstead. Many of the trees in Knightsbridge were felled during the seventeenth century, and an antique plan of this locality, attributed to the end of that century, shows two or three plots of land laid out in market gardens, one of these belonging to a Mr. Calloway, and bearing the name of Quail Close, suggesting that partridges used to be seen or hunted for there. Mr. Wiltshire also was a holder of land, and an entry in the Chelsea records informs us that this same Jeremiah Wiltshire (I presume) was fined in 1705, with Thomas Robinson, for "having made a pond or water-place for the rotting of dung, and for having deposited a heap of mould on the Common." Most probably wanting space in their ground for the preparation of the manure they employed, these gardeners made free with the Common, not meaning any harm, and no doubt they paid the fine honourably. But the trivial incident illustrates that an era of improvement in plant culture was coming on, due to intercourse with the Continent. The inhabitants of Chelsea seem at times to have been very particular about their Common, and at other times lax, for when the above occurred a lease had not long expired by which they had let a part of the Common for twenty-one years to Abraham Stony, a market gardener and farmer; and from a condition that he was to put upon the land a specified quantity of manure during the last three years of his occupancy, it may be supposed that he cultivated the land and did not merely turn it into a pasture, for Chelsea was famous for its cows all through the Stuart times, and its repute for custards lasted till the reign of George I.

Changes great and small, as I have hinted, were to be ascribed to the revolution of 1688 and the influx of Dutch gardeners, and one of the effects was a stimulus given to the culture of Asparagus, for it was a much-admired esculent in courtly circles. From the mention of it by some writers one would almost be inclined to think its season lasted longer then than now, when public taste demands a succession of vegetables. It is true King William's mode of eating Asparagus was peculiar, for he devoured the stalks, and hence guests at the royal table felt themselves embarrassed, for to leave one's stalks upon the plate was as good as implying that His Majesty was guilty of an act of indecency. And here and there on the "Five Fields," now covered by the mansions of Belgravia, Asparagus was grown in the reigns of William and Anne, perhaps later, though the ground was not generally cultivated, and much of it continued to be waste or common land until the present century had long ceased to be new; but the earlier market gardeners of Chelsea had most of their ground farther up the King's Road, and only cultivated a few patches of ground in the "Five Fields." There were some in the reign of Charles II., and several of these were living in the time of George I., and able to testify from their knowledge and personal experience that there was a right of way across the "Five Fields," for a succession of attempts was made by court officials to exclude gardeners and other persons from what was called the "King's Private Road," and the names of the following gardeners can be quoted as uniting with the lord of the manor and other Chelsea residents to secure an unquestionable right. These names are J. Franklin, E. Anderson, J. Lindford, M. Hutchins, and N. Perritt, all of whom either owned land abutting on the "Five Fields," or had for various purposes travelled with their carts or without them along a road from which the King wanted to shut out the public. And it is a curious bit of history that comes out in one of the documents connected with this affair, that a great deal of the produce sent to the markets was carried on the shoulders of men and women; no doubt the reason was that vehicles could not pass through the park, and the roads through Westminster were but so-so. The Hutchins family, it may be remarked, has had a long connection with Chelsea as farmers and market gardeners, and at Chelsea Farm, once situate near the Vestry Hall on the opposite side of the King's Road, a notable murder was perpetrated by some Jews. Lindford the gardener showed some spirit, for it is stated that when he met the King's surveyor he was asked where he was going, and he answered he was going to his own land, and the surveyor could not stop him nor anyone else; "whereupon the surveyor said no more." The gardeners not only won the day, but also gained a strip of land which had been taken from them, and the King's surveyor had orders to re-open some ditches he had filled up. Vegetables, it would seem, were principally cultivated by these gardeners. Some fruit was



sent to the market from Chelsea orchards, but they were situate further westward towards "Little Chelsea," afterwards "Brompton," lastly "South Kensington." The story of the nurserymen of Chelsea belongs to a later period, which we shall have to consider hereafter.—C.

### NOTES AND GLEANINGS.

THE nursery of Messrs. Veitch at Chelsea can never be visited without finding something, especially amongst the ORCHIDS, to admire. A few which are flowering now are the Vandas—tricolor, suavis, and cærulea, which are very fine. Mr. Dominy's grand Cattleya *C. exoniensis*, and one of its charmingly marked parents *C. maxima*; *Oncidium varicosum*, a grand spike; *O. leopardinum*, extremely rich; *Cælogyne Cumingii*, waxy white, with lemon-coloured lip, and sweetly scented; and *Cypripediums*. *Lapageria alba* in the long corridor is also extremely beautiful, the large waxy flowers with which the roof is covered producing an effect which cannot be equalled by any other greenhouse climber.

— WE had lately an opportunity of inspecting the new CRAIGLEITH NURSERIES of Messrs. Ireland & Thomson, Comely Bank, Edinburgh, and we were quite surprised to find the rapid progress that has been made in the way of getting everything into working order, especially about the houses. The glass ranges are very extensive, and they are all constructed on the most improved principles. All the houses are span-roofed and exceedingly well adapted for nursery-plant culture, being comparatively low in the roofs and glazed with large wide panes of glass, which are much more conducive to plant health than lofty dark erections. The propagating house and most of the other tender-plant houses can be reached from the potting shed without going into the open air, and all the houses are conveniently placed together. Many of them are already well stocked with healthy young stove and greenhouse plants. The heating, which extends to some thousands of feet of 4-inch piping, is all done with one of the largest of Meiklejohn's improved cruciform boilers, which bears a good name in Scotland for its economy and power.

— A NEW variety of *LILIUM auratum* has just been flowering in Mr. Bull's nursery at Chelsea, which is so distinct and beautiful as to merit special notice. We saw this flower in its faded state, and it then measured over 12 inches in diameter. It is quite dissimilar from the usual type of *L. auratum*; indeed *auratum* as applied to this variety becomes an anomaly, for there is no ray or spot of yellow, that colour down the central petals being substituted by what is now in the flowers' fading state a band of reddish maroon, but when fresh was a rich blood colour. The petals are also heavily spotted with the same rich colour. This is a gorgeous Lily, and has been recommended by a good authority to be named *L. auratum cruentum*. In the same establishment we saw flowering the beautiful new BOMAREA, B. Carderi, which was so conspicuous in Mr. Bull's group of new plants at the Royal Aquarium on May 30th. The plant then was small, and its flowers were few, but it is now large, and on one umbel there are twenty-three miniature *Lapageria*-like flowers of a rosy pink colour. The plant is trained to the roof of an intermediate house, and its flowers are both novel and attractive. It is a very distinct plant, and will probably flourish in a greenhouse temperature.

— WE are informed that the late EXHIBITION AT DUNDEE was, notwithstanding the inclement weather which prevailed at the time, financially successful. Thirty thousand persons visited the Show, the total amount received being £1700, and that after paying prize money to the amount of £1013, and other expenses, a satisfactory balance will remain in the hands of the managers. A result so gratifying will afford encouragement to our enterprising Scottish friends and stimulate them to further endeavours in the future.

— IN addition to the greater parks of London vested in the Crown, but open to the public, the Metropolitan Board of Works state, in the report they have issued this year, that there are under their management about 1100 acres of PUBLIC RECREATION GROUNDS in various parts of the metropolis and its suburbs. There is Blackheath, comprising 267 acres; Hampstead Heath, 240 acres; Finsbury Park, 115 acres; Southwark Park, 63 acres; Hackney Downs, 50 acres; Well Street (Hackney) Common, 30 acres; North and South Mill Fields, 57 acres; London Fields, 27 acres; Tooting Beck Common, 144 acres; and Tooting Graveney Common, 63 acres. The gardens on the Thames Embankment and in Leicester Square present

14 acres. The remainder of the 1094 acres is made up of Clapton Common, Stoke Newington Common, and Shepherd's Bush Common.

— THREE MUSHROOMS close together at Dunlaven, Ireland, were of the following great weights and dimensions. They were common field Mushrooms. The weight of the first was 12½ ozs., and its circumference 27 inches; the second, 10½ ozs., and circumference 21 inches; and the third, 7 ozs. in weight and 18 inches in circumference.

— ON the 21st inst. the Master (Mr. J. Stroud) and the municipal members of the Fruiterers' Company waited upon the Lord Mayor at the Mansion House, and, in accordance with an ancient custom annually observed, presented for the acceptance of the Lady Mayoress and himself a splendid assortment of all the CHOICE FRUITS OF THE SEASON. The gift, which was very tastefully laid out in the saloon, included Pine Apples, Melons, Pears, Damsons, Figs, Apples, Grapes, and Walnuts. The Master, addressing the Lord Mayor and the Lady Mayoress, assured them that it gave the Fruiterers' Company great pleasure to tender year after year their respectful homage to the Chief Magistrate of the City, and their only regret was that having neither orchards nor vineyards of their own, they could not describe the fruit as "home-grown." The Lord Mayor, in a few appropriate sentences, thanked the Company for their valuable and seasonable gift, which annually and pleasantly connected their Guild with the head of the Corporation of London for the time being, and added that, also following the ancient custom, he would have the honour of entertaining the Company at dinner at the Mansion House in the course of the next month. After taking some light refreshments the Company retired. It was formerly the practice for a staff of gaily-dressed porters walking in single file to bring the fruit through the City from Farringdon Market; and the Lady Mayoress, it is said, not only gave each carrier a bottle of wine to take home in his empty basket, but, as the Ceremonial Book has it, "regaled" them with a dinner.

### NOTES ON VILLA AND SUBURBAN GARDENING.

FLORIST FLOWERS AND BEDDING PLANTS.—After this month is out the winter culture of plants under these two headings may be said to have commenced. Heavy rains and cold nights with sharp white frosts which may come at any moment, suggest that it is best to be on the safe side by placing the plants under glass coverings where the lights can be thrown off in fine days and put on at nights, admitting air all night if the weather should be suitable.

Amongst the most prominent of winter-flowering plants are Primulas. These should mostly be establishing themselves in their flowering pots, and the plants should almost have attained their full growth. They should now be protected both by day and night, and be kept as near the glass as possible so that the plants may not be drawn. A span-roofed glass case placed on a bed of coal ashes is one of the best structures for them. These cases are shallow and allow of air being admitted under them, and as they also admit plenty of light all round, they are particularly suitable for preserving the lower foliage of the plants. The second batch of plants, a few of which ought always to be grown to come in with bulbs towards the spring, must be kept growing all through next month as fast as possible, and after being put into their winter quarters be kept rather moderately watered, and have the flower stems picked off till the days begin to lengthen in January, when the plants may be allowed to flower. Weak guano water applied twice a-week after the plants show signs of flowering greatly improves the plants and flowers. Particular care is necessary in watering Primulas; for if the plants should happen to be potted rather low the water overflows their necks, and if allowed to lodge there the chances are that the plants will die-off in considerable numbers. A light soil potted rather firmly with the necks of the plants nearly level with the rim of the pot and good drainage are very essential in growing Primulas. They do not need so much water as some plants, but it must pass away quickly.

Cinerarias are also important plants for flowering in winter and spring. They ought to be at once shifted into their flowering pots; and although these plants grow most freely in the open air during September, it is not safe to trust them out much longer. The soil they do well in is composed of two parts of turfy loam—if laid up for a year so much the better—one part of sandy fibrous peat, and another part of well-decayed leaf soil, adding before potting a liberal admixture of sand. I like also to add a little powdered charcoal both in the soil and drainage. Cinerarias should be potted firmly, as the roots are fine and take hold of the soil much better than when potted lightly. After potting place the plants on an ash bottom in a cold frame, and after a few days if the weather is mild let them have a little

air under the frame as well as at the top. These plants make their leaves close on the top of the soil, therefore before watering examine the soil of each pot to make sure that water is needed. Roots are also produced on the surface of the soil. These roots must be taken care of, as no doubt from them the fine, broad, stout foliage is supported. All suckers or side shoots may be taken off, as the plants grow sufficiently large for decorative purposes without them. Cinerarias are in many places kept in good health in cold frames all through the winter; at any rate they do better in such places than on the dry boarded stages of a greenhouse. If kept in frames they must be sufficiently protected from frost, and have all decayed matter carefully removed from them.

Calceolarias, too, will now need some attention. Ours are pricked-out in pans and protected with hand-lights. They grow more during winter than at any other time. They, too, will do wonderfully well in a frame in winter, and do not mind a little moisture on the foliage provided it is not stagnant. They must be shifted into larger pots as soon as the roots reach the sides of the small pots, not allowing them to become matted together, or the plants stop growing and send-up flowering shoots; but if shifted judiciously and the flowering shoots are picked off, very fine plants are produced which flower in April and May. In the spring when the days have become warm a sprinkling of water over the plants and around the pots helps to strengthen the foliage very much. They must have plenty of air, and a temperature of 45° or 50° will grow them well. Two-thirds of rich light loam, the rest leaf soil and sand, or if no leaf soil is at hand, one part of very dry flaky cow dung sifted through a fine-meshed sieve, adding a little charcoal as stated for the Cineraria, will be very suitable, and in this compost the plants ought to thrive well.

Chrysanthemums now require training, as they are just growing into large plants and are setting their flower buds. Use as few sticks as possible; the disturbed foliage will return to its natural position after tying. Each shoot should be tied outside of the sticks in order to hide them as much as possible. Now is the time to give these plants weak liquid manure twice a-week, which will help to keep the leaves healthy and assist in swelling the flower buds. If dry days should come on the plants must be sprinkled overhead in the afternoon, for if a plant loses its foliage before flowering it is an unsightly plant, and will not flower in any way satisfactorily. If it is required to have plants in small pots many of the medium-sized shoots should be taken out, and in order to have fine large flowers some of the buds will need thinning-out, but in our case we want as many flowers as we can possibly produce.

**BEDDING PLANTS.**—Complete the propagating as quickly as possible, and where there is no room to put the cuttings under glass they ought to be arranged in beds, and have a covering of canvas placed over the glass at night. Our Geraniums, Verbenas, &c., are all exposed outdoors and most of them are rooted. We have already had slight frosts, which have altered the colour of Alternantheras and some other tender plants, which is a hint that a watch must be kept, and shelter must be in readiness for plants which we wish to preserve. Heliotropes, Nasturtiums, Lobelias, Verbenas, Alternantheras, Mesembryanthemums, Abutilons, Salvias, Petunias, and other softwooded plants have been put in thickly in pots; these plants will be considered as store plants through the winter, and will be potted-off early in the spring and propagated from as quickly as possible. We have not room to treat them more liberally. A few old frames are in readiness to receive old plants that are to be taken up from the beds. Dahlias, Salvias, &c., will be stored in a dry shed.

Our attention will next be turned to preparing a place for bedding Calceolaria cuttings. The plants will be left as long as possible, and the cuttings will be taken just before frost and inserted in frames. At the same time cuttings of the Golden Chickweed, Pansies of the common sorts, Gazanias, Gnaphaliums, and Alyssums will be put in, for we find all these to keep well with the Calceolarias. The cuttings of Calceolarias and Alyssums will not bear the sun, therefore these are put in together so as to be shaded; the others are not shaded at all. A bed of soil is made up, and a frame placed upon it and filled-up with good cuttings, the soil being within a few inches of the glass, and the cuttings generally root quickly and well.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

USUALLY at this season of the year there is plenty of vacant ground requiring to be dug or trenched, and when time can be spared it is always best to trench vacant ground instead of digging it; and just a word in passing about trenching. As a matter of course, if this can be done early in the autumn when the ground is dry, so much the better in many ways—it is better for wheeling the manure, so it is easier to move soil that is comparatively dry than when it is saturated with water, and in

early spring soil that has been worked in the autumn is much better adapted for all kinds of crops than that worked in the dead of winter. Further, it is not uncommon for men to be sent to trench a piece of ground that has been made hard by frequently trampling upon it, and they fork the hard lumps into the bottom of the trenches without taking any pains to break them up. The proper thing to do with hard ground is to fork it up, first breaking the top spit well during the process. If the ground can lie a week or two in this state so much the better. Another object to be attained by trenching is to give a larger dressing of manure to the ground than could be applied if it had only been dug. A good way to apply the manure is to spread a thick coating over the surface of the soil, and as the first spit of earth is forked into the opening that has been made at one end of the ground, the manure becomes mixed with it. The loose soil should then be thrown in with a spade or shovel, another dressing of manure may be placed over this, then a spit of earth, and another shovelling from the bottom of the trench to finish. It is a further advantage to fork-up the hard bottom. In this way, by taking two spits and two shovellings, the ground is stirred-up to the depth of over 2 feet. If the ground requires digging only, let it be done to a uniform depth and as neatly as possible, and whether it is dug or trenched it ought to be left perfectly level.

The dry weather has been very favourable for earthing-up Celery. It is too early yet to earth-up the general crop, but that required, say, a month or six weeks hence, may now be earthed-up. In our district it is quite necessary to water late crops to prevent them from running to seed. Celery requires a considerable supply of water at the roots, and when soil has been added to it for a distance up the stem the surface may be quite moist, and underneath where the fibrous roots are at work the ground may be quite drained of moisture. If the ground is not yet prepared for spring Cabbages it ought to be done at once. A good dressing of manure is necessary, as the Cabbage is a very gross feeder, and the quality is deteriorated when the plants are grown in poor soil. The hoe should be freely used amongst autumn-sown Onions, Spinach, Lettuce, and other crops.

### MELONS AND CUCUMBERS.

So far the weather has been all that can be wished for the ripening of Melons and the growth of Cucumber plants; for without vigorous growth good-flavoured and handsome Cucumbers are not possible. When the Melons are grown in houses properly constructed and well heated the requisite night temperature, 65°, can easily be kept up, and if the fruit is ripening a little air should be admitted all night at the apex of the roof; but artificial heat, though necessary to obtain good Melons at this season, cannot compensate for want of sunshine, and it is principally on the amount of sunshine the plants receive that the flavour of the fruit depends. The plants should be well watered at the roots until the fruit is within a week of changing, and no more ought to be given, and it will not be necessary now to throw much water about on the paths and walls of the houses. Melons in frames are not likely to be of good flavour, for long and cold nights tell upon the plants. If the night temperature should continue to fall as low as 45° it is of much advantage to throw a mat over the frame, and the heat might be further kept up by a lining of hot manure, leaves, or the sweepings from the lawn.

Our Cucumber plants in the house have continued to bear abundantly since March, and the vigorous growth they now make gives promise that they would bear until March comes round again. Messrs. Kelway of Langport sent seeds of two new varieties for trial. Both of them have turned out well, and have held their own against Tender and True, which was planted with them for comparison. Kelway's Conqueror is a very prolific variety, and is distinct from any other sort that has been grown at Loxford. It resembles in many respects a variety that is grown to a large extent in the neighbourhood of Cheltenham, and that has been frequently exhibited under the name of Dreadnought. It is an excellent Cucumber both for summer and winter use. The other sort on being compared with Tender and True is so like it that many persons have been deceived and thought that it was that sort. It is strong in growth, bears freely in winter as well as summer, and is also well adapted for exhibition. Mr. Kelway has named it Kelway's New Winter Cucumber.

We shall clear out our old plants in a few weeks, and plant the same varieties again. The plants have been raised from seeds, and will come into bearing a few weeks after they are planted out. We pot the plants on into 8 and 9-inch pots. What with syringing and moisture in the house, the glass over the plants has been quite obscured with a greenish substance that generally accumulates when the glass cannot be washed. When the old plants are removed it will give us a chance to have a thorough clean-out—both glass and woodwork will be washed over with warm soft water.

### ORCHARD HOUSE.

All the fruit has been gathered now and the trees reotted

It is better to repot annually than it is to surface or top-dress the trees. Somehow worms will work up into the pots, and in other ways the drainage becomes choked in the course of twelve months, and with the annual potting fresh soil is placed all round and under the roots, whereas by merely digging out a certain quantity from the top and partly down the sides the fresh soil does not come into immediate contact with the roots. We always repot before the leaves fall—indeed, no time is lost, so that the potting, as it has been this season, has been finished by the middle of September. The trees are now making plenty of fresh roots, and they will be well established before the cold weather sets in. The secret of success in potting at a time when the trees are in full leaf is to take care that the leaves do not suffer. It is not necessary to shade the glass, but simply keep the ventilators a little close and the leaves moist by frequent davings overhead with the fine rose of the syringe or garden engine. When the new rootlets are formed the trees require plenty of water at the roots.

#### GREENHOUSE AND CONSERVATORY.

We are rather short of fine flowers at this season in the greenhouse, but when this is the case those that we do have are more highly valued. A number of plants of *Bouvardia Vreelandii* and *B. jasminiflora* had been out of doors during the summer; they are now either in flower or in bud, and a continued succession of them will be obtained until Christmas. For variety *B. Hogarth*, with bright red flowers, is very useful for cutting.

*Nerium Oleander* has been in flower for a month, and the plants look as if they would produce a succession for a month or six weeks longer. This fine old plant is not so much grown as it ought to be. Cuttings struck at this time last year now flower freely in 6-inch pots, and old bushes liberally treated make exceedingly handsome objects in the greenhouse or conservatory. One not unfrequently sees them producing plenty of leaves and long willow-like growths with few flowers. This is because the plants have not been allowed a season of rest. When the plants have finished flowering a good place for them is a cool dry vinery, and no more water ought to be given than just sufficient to prevent the plants from flagging. During the growing season water should be plentifully supplied to them. The *Oleander* does well in a compost of sound turfy loam with a third part of turfy peat and a little decayed frame manure added to it.

*Stage Pelargoniums* have been repotted, using clean pots a size smaller than the plants were grown in previously. The large exhibition plants are grown in pots 8½ inches in diameter, and it is astonishing to see the immense plants quite 18 feet in circumference, furnished with hundreds of well-developed trusses of flowers, and at the same time healthy green leaves in pots of this size. In order to produce fine plants the potting material must be of the best, and manure water has to be liberally supplied. Such plants must be turned out of their pots now; a large proportion of the roots and exhausted soil should be removed, and the plants be repotted into pots 7 inches in diameter. The plants should be repotted when the growths are an inch long. If the growths become too long the plant suffers when the roots are reduced. A very good compost for stage *Pelargoniums* is good turfy loam four parts, one part decayed manure, and one part leaf soil. The loam should be of a moderately clayey nature, and when this is the case a sufficient quantity of silver sand should be added to keep it open. An 8-inch potful of bone dust should be added to each barrowload of the loam. Fancy *Pelargoniums* do not succeed in a compost so strong as the above, and a little more sand should be added to the soil.

Training specimen plants of *Chrysanthemums* and looking over those plants grown for the beauty and size of their flowers, removing all superfluous buds, and dusting with tobacco powder where there is any appearance of green fly, are matters which are now receiving our attention.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

William Knight, Floral Nurseries, Hailsham, Sussex.—*Catalogue of Roses, Coniferae, Fruit Trees, &c.*

Samuel Yates, 16 and 18, Old Millgate, Manchester.—*Illustrated Catalogue of Dutch and other Flower Roots.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

ALEXANDRA PALACE (Potatoes). September 28th and 29th. Mr. John McKenzie, 1 and 2, Great Winchester Street Buildings, London, E.C.

HULL. October 10th, 11th, and 12th. Mr. J. Chappell, 96, Prospect Street, Sec.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

MARGATE. August 29th, 1877. Mr. C. D. Smith Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

APPLES WANTED.—Several correspondents would be obliged by "J. J. Lencashire," stating where Domino, Greasy Coat, Pike's Pearmain, &c., can be purchased.

APPLES AND PEARS (Rev. R. G.).—Write to Messrs. Webber & Co., Middle Avenue, Covent Garden Market.

PLUM TREE THROWING-UP SUCKERS (F. M.).—Just in proportion to the number thrown up is the tree injured by them. The best way is to work down, and cut them off close to the roots from where they spring; the usual way is to chop them off carefully with a spade. You may either prune the tree now or any time through the winter.

OLDEST VARIETY OF THE APPLE (Devon).—We cannot tell which is the oldest variety still in cultivation, but we do not think it is the Golden Pippin. We do not know which of our present Pearmain is that mentioned more than five centuries since, or whether new varieties have had that name applied. In the reign of Edward I. Walter de Hevene held the manor of Runham in Norfolk on condition that he rendered to the king annually two measures (muts) of Pearmain cider.

RASPBERRY CULTURE (M. C. Ellis).—There is no special treatment required to grow Raspberries if the soil is suitable. They like soil deep, rich, and moist. From four to six canes is a sufficient number from an stool. Have you good varieties? If you have them not, try Fastolf, Carter's Prolific, and Red Antwerp.

PEARS AND PLUMS FOR ESPALIERS (Idem).—Pears: Louise Bonne of Jersey, Williams' Bon Chrétien, Marie Louise, Doyenné du Comice, Winter Nellis, and Joséphine de Malines. Plums: Victoria, Prince Englebert, Green Gage, Kirke's, Jefferson's, and Cox's Golden Drop.

FRUIT TREES FOR UPRIGHT CORDONS (Durham).—Pear trees are best adapted for this purpose, but in your district it would be as well to try a few of the finer sorts of Apples. We should plant of Pears—Beurré d'Amanlis, Louise Bonne of Jersey, Beurré Hardy, Van Mons Léon Leclerc, Madame Treve, Easter Beurré, Doyenné du Comice, Glou Morcean, Bergamotte d'Esperen, Marie Louise, Winter Nellis, Suffolk Thorn, and Beurré Diel. Of Apples—Kerry Pippin, Cox's Orange Pippin, Golden Pippin, Ribston Pippin, Scarlet Nonpareil, Nonpareil, Braddick's Nonpareil, Margil, Mannington's Pearmain, and Sturmer Pippin.

LEAN-TO PEACH HOUSE (Tommy).—Your back wall being 12 feet high, and the width of the house 10 feet, we should have 3 feet of front lights upon 10 to 12 inches of masonry above ground, the whole of the front lights to open, and corresponding lights at the top of the house, also opening the full length. We should have trees upon the back wall for at least a time, as they will bear well until too much shaded by the trees in front; and if you wish to retain the trees upon the back wall in a fruitful state, the trees upon the trellises in front must not be allowed to extend more than two-thirds the extent of the roof. The trellis should be 15 inches from the glass. You will have room for six trees, three in front and the same number at back, or you may have eight at 12 feet apart. The best Peaches are Dr. Hogg, Crawford's Early, Grosse Mignonne, and Noblesse, to succeed which are Barrington and Princess of Wales. Nectarines—Lord Napier, Pine Apple, Elruge, and Violette Hâtive. See also Mr. Taylor's list of successional Peaches in the present issue.

VINES FOR VINERY (Idem).—You will only have room for four Vines upon the front, and they would not succeed well upon the back wall. Black Hamburg and Muscat of Alexandria are the best of all Grapes. We should have two Black Hamburgs, one Madresfield Court, and one Muscat of Alexandria, or Foster's White Seedling if you do not intend to ripen with heat.

SEEDLING BEGONIA (Typo).—It is quite a novel form, and as the plant is of good habit may prove an acquisition.

EVERGREEN CREEPER FOR PORCH (D. D.).—Not one of the Tropaeolums would serve your purpose, as frost is not excluded. The Irish Ivy is the most desirable. For deodorising any charcoal in powder is effective.

FORCING RHUBARB (A Young Amateur).—We do not understand what is meant by a "tunnel," but we apprehend it is constructed of fermenting materials, and is made as follows:—The space for the Rhubarb is marked out by stakes being driven into the ground, a dry sheltered situation being chosen, and are kept 3 to 3 feet 6 inches above ground. The sides of the bed are formed by nailing any old slabs of wood to the stakes, not being particular about the boards being close; all that is needed is to have the sides and ends sufficiently stable to keep the fermenting material from the enclosed space, which may be 3 to 4 feet wide, and of any length desired. The Rhubarb roots are put in the bed rather closely together, but so as to admit of some rich soil being placed between and all around them, the soil being in a thoroughly moist state and made compact about the roots. The sides of the frame have fermenting material placed against them, the top being covered with slabs, and covered in a similar manner to the sides, a heap of fermenting material being raised around and over the bed so as to produce a temperature in the "tunnel" not exceeding 65°. In this way fine stalks of Rhubarb may be had in three weeks to a month. The end of November or early in December is a good time to commence forcing. The best heating material is an admixture of stable litter with leaves, but sweetened stable dung answers well.

HERBACEOUS CALCAREOLARIAS DAMPING OFF (E. H. S.).—The atmosphere has probably been very moist and close, and damping has resulted from too frequent and heavy waterings. There is no book treating separately on soft-wooded plants.

**WINTERING SEMPERVIVUM CALIFORNICUM, WIGANDIAS, AND CANNAS (A. B.).**—*Sempervivum californicum* is quite hardy in well-drained soil, but if you have the offsets in pots they may be wintered in a cold frame or house, keeping rather dry. The *Wigandias* should be taken up and potted before frost, and be afforded a light airy position in a house from which frost is excluded. We should not cut back until spring, and then encourage fresh growth in a hotbed, hardening well off before planting out. The *Cannas* should have the roots taken up after the first frost, be laid in a shed a few days to dry, and be packed away in sand in a place safe from frost, potting them in March and forwarding in a hotbed.

**TROPEOLUM SPECIOSUM AND T. PENTAPHYLLUM (Franklin).**—Keep them in the pots over the winter in the greenhouse, and plant out in spring—late in March or early in April. *T. speciosum* flourishes best in peat soil, and would be most likely to thrive with you upon a west aspect. Planted in an American bed the shoots should ramble over the plants, and when in bloom in late summer they produce a fine effect. *T. pentaphyllum* will now be growing, and should be planted out if you intend to treat it as a hardy subject, but we should give it a position in a cool airy part of the greenhouse. If planted outdoors a south aspect should be afforded it.

**BOUSSINGAULTIA BASELOIDES (Idem).**—We think the spotted condition of the leaves is due to excessive moisture, especially over the foliage, which should not be syringed, the foliage being of a thick texture. We also think you have overwatered the roots, though when growing freely the plant requires to be copiously watered, but to be kept rather dry in winter. We should prefer planting it out, training the shoots to a pillar or trellis in a light airy position. It flowers in late summer or early in autumn, and is very fine.

**SOOT WATER (Idem).**—After being allowed to settle the clear liquid is good for syringing with, but for watering the liquid should be well stirred up each time it is used. The "soum" may be removed from the surface of the pots by a sharpened label, the flat end formed into a wedge. There is always some insoluble parts resulting of burnt soot or ash, but these may be avoided by placing the soot in a hair bag or stocking. Soot water will keep over a lengthened period, but is best fresh.

**THUJA LOBBII—SOWING HOLLY BERRIES (W. C.).**—The seeds in the cones of *Thuja Lobbia* are abortive. The Holly berries kept two years in sand may be sown any time between now and March. We should sow in November.

**DAHLIAS FOR EXHIBITION (B. B.).**—The best twenty-four show and twelve fancy *Dahlia*s are the following:—*Show*: Barnard, Royal Purple, Samuel Pinesoll, Acme of Perfection, Arbitrator, Charles Turner, Cremorne, George Goodall, Herbert Turner, James Cocker, James Service, John Dunnington, John Standish, Julia Wyatt, Lady Gladys Herbert, Leah, Mrs. Boston, Mrs. Henshaw, John Bennett, Prince Arthur, Thomas Goodwin, William Pringle Laird, Yellow Standard, Tolson d'Or. *Fancy varieties*: Mrs. Standish, Henry Glasscock, Dolly Varden, Ebor, Egyptian Prince, Flossie Williams, Grand Sultan, Laura Haslam, Miss Lilly Large, Mrs. Saunders, Pauline, and Rev. J. B. M. Camm. Transplant your *Roses* in November.

**SEEDLING FUCHSIA (Darlingtonian).**—Its semi-double sepals are uncommon, but the beauty of the flower is not improved by them.

**LIMING A GARDEN (Arturus).**—Now and in the spring lime should be applied in the evening to destroy slugs. Put on the lime, and add stable manure the next morning. Make the surface of the ground quite white with the lime. Peruse Mr. Abbey's article on "Lime and its Application" in No. 795, the issue of June 22nd of the present year.

**PLANTING CLEMATIS (S. W.).**—The best time to plant is in March, though by purchasing now it is likely you may secure better plants. They may be wintered with the pots plunged in ashes in a frame or in a sheltered situation outdoors.

**HARDINESS OF CAMPANULA CALYCANthemA (Idem).**—These varieties of Canterbury Bells are perfectly hardy, requiring a rather light well-drained soil.

**WINTERING SEEDLING PANSIES, &c. (A Reader).**—Your position being bleak we should prick the *Pansies* out on a sheltered border in a rather light well-drained soil, and plant them in spring where they are required to flower. The "Cillies," which we presume are *Carnations*, Sweet Williams, &c., plant now where they are to flower, or they may be planted in spring, moving them with balls.

**SILENE PENDULA COMPACTA (C. Y.).**—It is perfectly hardy, especially in a "moderately light and dry" soil. Plant out in October where intended to flower.

**TRANSPLANTING ROSES ON MANETTI (Idem).**—Take them up carefully in November or early in December, and if they have to be removed a distance wrap the roots in straw and mats to keep them from the air and frosts. Plant as deeply as before and mulch well. Defer pruning until late, and cut back rather closely. They will afford good blooms.

**EUCALYPTUS GLOBULUS (Old Subscriber).**—There is considerable difference between the winters of Italy and those of England. In this country it does not succeed as a hardy tree except in a very warm situation and dry, so that the growths made are well ripened. We have seen it thriving in a cold house. It requires a moist situation, and a wall with protection, or a greenhouse.

**REMOVING WATER FROM SOIL (W.).**—Nothing will do so so efficiently as drainage, the want of which we presume is the cause of your soil not being dry. If the ground, however, does not suffer from stagnant water, the staple of the soil may be improved by an admixture of old mortar rubbish and ashes. November is the best time to transplant *Roses*, or as soon as possible after a majority of their leaves have fallen.

**RETAINING THE AUTUMN TINTS OF LEAVES (B. Hindley).**—It can only be done, so far as we are aware, by drying the leaves between sheets of blotting paper, changing them to dry sheets daily. The sheets should be dry and pressed firmly, and relaxing the pressure after the leaves cease to moisten the paper, placing them thinly between sheets of paper afterwards.

**PEAR EATEN (Idem).**—The Pear has the appearance of being eaten by wasps, bluebottle flies probably assisting. It is probable that birds may have begun the mischief by pecking at the fruit, complete devastation being effected by the wasps.

**FUNGUS ON LAWN (S. M. H.).**—Sow common salt over it when the fungi appear at the rate of ten bushels per acre.

**ARRANGEMENT OF FRUIT ROOM (Constant Reader).**—The walls are sufficiently thick. We advise you to skirt the wall with boards, and plaster the roof as you propose. The floor, we think, will answer as it is. If you find the damp injures the fruit then you can lay down boards.

**NAMES OF PLANTS (T. S.).**—*Acanthus spinosus*, Prickly *Acanthus*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### CAN A POULTRY FARM PAY?—No. 1.

This question has been fully answered in the affirmative by our neighbours the French. Hitherto with us the attempts have ended more or less in failure; but is that a reason, if a proper method is adopted and due care and supervision exercised, that we should not succeed in the future? From the accounts I have before me of the French poultry farms I gather that if we follow their example and breed for sale, just as ordinary farmers do their sheep and oxen, there is no apparent reason why a fairly remunerative profit should not be realised by poultry farmers in this country. My belief is that all attempts hitherto in Great Britain have been undertaken and carried out on fallacious bases. The mania for prize-winning and fancy exhibiting has helped to bar success. Again, too expensive and elaborate buildings, &c., have been another cause of failure. Look to some of our most successful breeders: ordinary wooden houses have been enough for them, and their birds have everywhere gained commendation. Let, therefore, economy and real, not elaborate, efficiency be our aim.

1st, Let there be plenty of space in the open runs. The poultry will find for themselves much good and wholesome natural food, and so save extra feeding. 2nd, Let the home feeding be regular and liberal, but not excessive; your birds then will always be in good health and condition. 3rd, Whether you purpose producing eggs or meat for the table, choose suitable breeds for each object. Do not, however, use too many different breeds, as that involves complications in your houses, yards, and accommodation generally. 4th, Let your personal supervision be constant, and employ only the best and most trustworthy assistants.

I have lately read with pleasure in Mr. L. Wright's book on poultry of the Bellair (French) farm, that if intending poultry farmers here took this as their model, and only improved upon it so far as their own experience and that of celebrated poultry breeders suggested, they would soon have a sound system to work on and success be assured.

To take another line of argument. A farm, say, of fifteen or twenty acres will only support a certain number of sheep or oxen according to its fertility of soil; all other feeding stuff, oil cake, &c., will have to be paid for extra, and that in high proportion. Calculate out the product of this in beef and mutton for the market. So many oxen or sheep of such and such weight can be raised, but what can we say of poultry? In this case so much does not depend on the quality and richness of soil; and a greater weight of poultry at less cost, as I purpose showing in my next article, will be raised than could be of beef or mutton.

Poultry, it is true, are liable to disease, so are sheep and oxen. With twenty acres, too, if properly managed nearly every requisite might be raised for the stock kept. Could this be done in ordinary farming? Byes, cattle-steading, granaries, would in the case of an ordinary farm be on a much larger and more expensive scale than need be for a poultry farm.

There is only one question that seems to me of vital importance now left for consideration—Is there a good and conveniently situated market for your poultry, easy of access, and where fair wholesale prices can be obtained? If so, I can see no reason to doubt success.

I have for the last eight or ten years raised poultry in a large way for my own consumption (selling only at times the surplus), frequently having three or four hundred birds young and old in my yards, and averaging over five thousand eggs per annum, with always a fair supply during winter from young pullets. The direct gain in money was comparatively small, inasmuch as my runs were contracted, so entailing extra feeding, and little produce went to market, and that not of the best description; but indirectly my butcher's book was greatly relieved, and I always had a pleasant variety of food for the table. I bred Houdans, Brahmas, Chineses and common Geese, Peruvian and common Ducks.

As to the question of breeding for actual profit, I have not hitherto tried it; but so convinced am I from my past experience as an amateur that it will or should pay that I intend shortly, in conjunction with a friend of mine, to undertake poultry farming on a fairly large scale, beginning moderately at first, and eventually, if successful, extending our sphere of action.

So far I have given you and your readers my ideas and experience, hoping that others will take up this question and give us the benefit of their advice: in any case they must look upon the question in the proper light—viz., profit and loss.—G. R. HARRIOTT, Killmore.

**NOTTINGHAM POULTRY AND PIGEON SHOW.**—The Dog, Cat, and Poultry Show to be held at Nottingham in October, is not under



the auspices of the Committee of the Nottingham Poultry Show, which, we believe, will be held towards the end of the year.

### NORTHALLERTON POULTRY SHOW.

THE annual meeting of the Northallerton Agricultural Society came off on the 22nd inst., when the entries were greatly in advance of those of any previous year. Some capital pens were provided, and protected with canvas and placed in the open air. The day was very fine, so that the poultry did not suffer from exposure.

*Dorkings* are largely kept in the locality, and the class was a very good one, old birds carrying off the first and chickens the second prizes. *Game* were also a fair lot; first old Brown Reds, and second chickens of that variety. *Cochins*, very good old birds being ahead here also, the cup for best pen going to these. *Brahmas* not good, but there were some moderate *Polish*. Most of the *Hamburgs* were out of feather, but the first-prize winners were well-known birds of high quality. *Bantams* poor except the winners in the Variety class; first Silver Sebrights, and second Blacks in deep moult. *Ducks* very good in all classes. The first in the Variety class a neat pair of East Indian. *Turkeys* were a grand lot, and *Geese* also good.

In *Pigeons* the first-prize Carriers were very promising young birds, and the Pouters were good as a class; first Black, and second Blue Pied. In *Jacobins* first and second Reds, good in all points; rest only moderate. In *Tumblers* was a pair of young Almonds, cock very promising. *Fantails* a good class, but the wind used them ill, and made them difficult to judge. *Turbits* also a fair lot of thirteen pens; first Blue and second Reds. *Magpies* all Blacks, very good throughout, but the pick of the Show was a pair of White African Owls in the Variety class, which were a really grand pair, and very much like the cup-winners at Middleton-in-Teesdale.

POULTRY.—*DORKINGS*.—1, J. White. 2, A. Jackson. *GAME*.—1, W. Young-husband. 2, W. Bearpark. *SPANISH*.—1, H. Dale. 2, J. Robson. *COCHINS*.—1, G. H. Proctor. 2, C. Sidgwick. *BRAHMAS*.—1, J. Cass. 2, T. P. Carver. *POLANDS*.—1 and 2, T. P. Carver. *HAMBURGS*.—*Gold-spangled*.—1, T. P. Carver. 2, J. Johnson. *Silver-spangled*.—1 and 2, W. Bearpark. *Gold-pencilled*.—1, T. P. Carver. 2, G. Kidson. *ANY OTHER VARIETY*.—1, T. P. Carver. 2, Col. Cathcart. *BANTAMS*.—*Game*.—1 and 2, G. Carter. *Any other variety*.—1, T. P. Carver. 2, R. H. Ashton. *DUCKS*.—*Rouen*.—1, G. Pounder. 2, Mrs. Booth. *AYLESBURY*.—1, J. Cass. 2, T. Scooby. *Any other variety*.—1, G. Sadler. 2, R. H. Ashton. *TURKEYS*.—1, T. P. Carver. 2, T. Parker. *GEESE*.—1, J. Arrowsmith. 2, R. Brown. *SELLING CLASS*.—1, G. Carter. 2, G. Pounder. *LOCAL CLASS*.—*Barn-door Fowls*.—1, G. W. Dale. 2, G. Granger. 3, G. Oliver. *PIGEONS*.—*Carriers*.—1, T. C. Taylor. 2, J. L. Nicholson. *Pouters*.—1 and 2, G. Sadler. *JACOBINS*.—1, J. H. Bennison. 2, J. L. Nicholson. *TUMBLERS*.—1, T. Horsman, jun. 2, J. L. Nicholson. *FANTAILS*.—1, G. Sadler. 2, J. L. Nicholson. *TURBITES*.—1, G. Sadler. 2, J. Petch. *TURBITS*.—1, J. L. Nicholson. 2, Wetherill & Braithwaite. *NUNS*.—1, H. Mitchell. 2, Wetherill and Braithwaite. *MAGPIES*.—1, G. Sadler. 2, J. L. Nicholson. *ANY OTHER VARIETY*.—1, J. H. Bennison. 2, W. S. Clark. *SELLING CLASS*.—1, J. Maude. 2, H. S. Horn. *RABBITS*.—*ANY VARIETY*.—*Buck*.—1, A. Robson. 2, W. Tessiman. *Doe*.—1, A. Robson. 2, J. Johnson.

JUDGE.—Mr. E. Hutton, Pudsey.

### AYLESBURY POULTRY SHOW.

THIS Show was held on the 20th inst., and the quality was, as usual, very good. We hope the Committee will arrange some of their classes better another year, for in a Variety class of seventeen pens of splendid birds there were only two prizes, and one of those went to Bantams.

There were sixteen pens of *Dorkings*, and the cup again went to Silvers, the winners here being a very good pair of chickens, good in size, colour, and claws. We liked pen 7 (Beachey) very much indeed; they were a good pair of Coloured. The Silver pullet, too, in Lady Dartmouth's pen was a pretty bird. In Dark *Brahmas* the cup pullet was very lovely, her pencillings being superb. In Lights Mr. Dean won first with a good pen of old birds. We thought he had retired permanently, and had sold all his stock to Mr. Hall. Second and third prizes were won by Light chickens of good quality. *Cochins* came well to the front, and a very well-shaped pair of adults won the cup. The second were a good pair too, the cockerel being the unnoticed bird of Mr. Darby's at Southport, with a very fine adult hen. Good Partridge chickens won first in their class, and a very good pen of Blacks took third place, old Partridges coming in the middle. *Spanish* were a superior lot, though not a large collection. The cup pen was a first-class pair. In the *Game* we noticed nothing very striking. The cup went to good Brown Reds, Black Red chickens taking second, while in the next class a neat pair of Duckwing chickens won first. The *French* mustered very well. The cup Houdans were a good pair and large in size, while in Crêves a very fine old pen took the cup. Many of the highly commended pens were good, and well worthy of prizes. In *Hamburgs* the silver cream-jog, which Messrs. Field & Son annually offer for competition at this Show, went to Trentham for a pen of Golden-pencils, Silvers of good quality from the same yards taking second place. In Spangled *Hamburgs* the first went to good Silvers, while Silvers also took second, the pullets in both pens being well spangled and rich in markings. *Leghorns* made two very fair

classes; Whites were perhaps the best, the first and second here being very even in quality. We still find badly-coloured earlobes and high tails in the Browns, and hope they will soon be remedied by the enthusiastic members of the Leghorn Club. Mr. Ayre's two pullets were both very good indeed. The Variety class was, perhaps, one of the best classes in the Show. A very beautiful pen of White-crested Blacks won first, and well they deserved it. The cockerel is of much promise, but is not the same bird Mr. Norwood won with at Bath and Weymouth, we believe. Second prize went to lovely Silver-laced Bantams. Another half-dozen pens well deserved prizes, notably so Mr. Darby's Black Poles, Mr. Burrell's Golden ditto, and Lady Dartmouth's Silver ditto. *Aylesbury Ducks* were very fine, and quite properly Mr. Fowler won. *Rouens* too were admirable, and the cup pen really enormous. A very large pen of Ducklings took second place. *Geese* made but a poor collection for numbers, and *Turkeys* "were not." The Sale classes were well filled with mostly but fair specimens. Mr. Hewitt awarded the prizes. The whole Show seemed well managed as usual, and the catalogue arrangements were as admirable and prompt as ever.

POULTRY.—*DORKINGS*.—*Coloured*.—1, T. C. Burnell. 2, J. Walker. 3, H. Dods. *Any other variety*.—Cup, T. C. Burnell. 2, E. Woodford. 3, O. E. Cresswell. *BRAHMAS*.—*Dark*.—1 and 2, N. Newman & Manby. 3, R. P. Percival. *etc.* E. Pritchard. *Light*.—1, T. A. Dean. 2, R. P. Percival. 3, P. Haines. *SPANISH*.—1, W. R. Bull. 2, Mrs. Allsopp. 3, S. L. Edwards. *COCHINS*.—*Buff*.—Cup, P. Ogilvie. 2, A. Darby. 3, Mrs. A. Tindal. *White*.—1, Mrs. A. Tindal. 2, S. R. Harris. 3, J. K. Fowler. *Partridge or Black*.—1 and 2, Mrs. A. Tindal. 3, A. Darby. *GAME*.—*Black-breasted or other Red*.—Cup, J. Cock. 2, S. Matthews. 3, E. Holland. *Any other variety*.—1, S. Matthews. 2, Miss F. K. Winwood. 3, G. H. Fitz-Herbert. *HOUDANS*.—Cup, S. W. Thomas. 2, Mrs. Vallance. 3, R. Harvey. *GREY-GEUSES*.—Cup, F. F. Le Sneur. 1, Mrs. A. Tindal. 2, E. Burrell. 3, Rev. H. R. Peel. *HAMBURGS*.—*Gold or Silver-pencilled*.—1, W. R. Bull. 2, J. L. Nicholson. 3, J. Long. *Gold or Silver-spangled*.—1, Duke of Sutherland. 2, J. G. G. 3, T. Dean. *LEGHORNS*.—*White*.—Cup and 2, R. R. Fowler. 3, C. C. Seaman. *Brown*.—1, E. Ayre. 2, R. Harvey. 3, A. Kitchen. *GAME BANTAMS*.—1, F. C. Davis. 2, Miss W. Wyles. *ANY OTHER VARIETY*.—1, T. Norwood (Black Polands). 2, M. Leno (Laced Bantams). *DUCKS*.—*Aylesbury*.—Cup and 2, J. K. Fowler. 3, J. Hedges. *Rouen*.—Cup and 2, S. W. Evans. 3, J. Gee. *Any other variety*.—1, J. Booth. 2, M. Leno. *AYLESBURY*.—Cup, E. J. K. Fowler. 2, J. Kingley. *SELLING CLASS*.—*Cock or Cockerel*.—1, S. W. Thomas. 2, M. Leno. 3, S. Lucas. *Hen or Pullet*.—1, F. G. G. 2, J. K. Fowler. 3, Miss B. Williams. *Drake and Duck*.—1, J. W. Hedges. 2, T. Sear. 3, Mrs. A. Tindal.

### CHESTERFIELD POULTRY SHOW.

THIS, the first Show of poultry, was held in connection with the Norton Farmer's Club on the 20th inst. Turner's pens were used, and a capital marquee was provided; and with Mr. G. Helliwell as manager the whole arrangements were well carried out. The birds were of any age, which we think a mistake, as the entries would have been large had it been a chicken show. There were 187 pens.

*Brahmas*, first-and-cup a massive pen of old birds in fair order; second also old, but not in good feather, but cock good in shape. *Brahmas*, Light a fair lot as regards the winners. *Dorkings*, first and second chickens, and third old, the latter best except that the cock had one badly swollen foot. *Cochins* a grand lot; first-and-cup a pair of very large Buffs, grand in colour but little dark in tail; second and third Buff chickens, also very good. *Malays* were chickens, but not forward. *Hamburgs* being mixed classes were not large entries, the cup going to a pen of Silver-pencils, which were something near faultless; the second were Gold-pencils, very bright-looking, the cockerel perfect except that the spike of comb is not level at the base with the comb, and the pullet a little coarse in pencilling. Spangles only two, were fairly in the race; first Gold and second Silvers, and both out of feather. *Spanish* won the cup; *Polish* and *French* fowls being good and in very good order. *Game*, Black Reds were a large class, but there were many faulty birds; first-and-cup a good all-round pen of chickens; second lost in very few points, but were old and out of order; third also good. *Duckwings*, first cock a grand-coloured bird, but pullet not so good in colour; second a wild-looking fellow, good pullet; third best pullet, but cockerel crooked in breast. *Piles*, first an old cock and pullet, very good, the cock especially, and to this was awarded the extra for best cock in the Show. Brown Reds poor except first and second; no third given. *Bantams*, Black Red Game a good large class; first as near perfect in all points as possible, and the cup was given here, the rest of the birds also coming up well in quality. Brown Reds a moderate lot, the first in full feather. *Duckwings* poor, but *Piles* very good. In the Variety class the winners were Blacks, first very good chickens. In the Variety class all the winners were Black *Hamburgs*; first a good all-round pen; second also good, but cockerel not so good as first; third by far the best cockerel, but pullet no match at all, quite a chicken, and not fit for the show pen. *Geese* about the best class in the Show, and two extra prizes were awarded. There were some good birds in the Variety class, and some of these changed hands.

POULTRY.—*BRAHMAS*.—*Dark*.—1 and Cup, J. F. Smith. 2, J. Long. 3, E. Pritchard. *Light*.—1, E. Snell. 2, G. B. C. Breeze. 3, F. Holbrook. *DORKINGS*.—1, E. Snell. 2, W. Morritt. 3, W. Arkwright. *COCHINS*.—1 and Cup, H. Robinson. 2, C. Sidgwick. 3, J. F. Hodson. *MALAYS*.—1, A. Brooke. 2, E. Hawkins. *HAMBURGS*.—*Gold and Silver-pencilled*.—1, H. Beldon. 2, J. Long. *Gold and Silver-spangled*.—1 and 2, H. Beldon. 3, S. W. Hallam. *SPANISH*.—1 and Cup, R. Newbitt. 2, H. Beldon. 3, J. Powell. *POLANDS*.—1, H. Beldon. 2, A. & W. H. Silvester. 3, A. Darby. *FRENCH*.—1, E. Snell. 2, J. E. Clayton.

3, B. Barker. GAME.—*Black Red*.—1 and Cup, J. Fletcher. 2, J. S. Hodgson. 3, A. Brooks. *Duckwing*.—1, H. E. Martin. 2, J. Cock. 3, J. Calladine. *Pile*.—1, J. F. Walton. 2, G. Barnesby. 3, P. Lucas. *Brown Red*.—1, J. Cock. 2, W. Beresford. *Any other variety*.—1, J. Cook. BANTAMS.—*Black Red*.—1 and Cup, E. Walton. 2, H. Walshaw. 3, J. Oscroft. *Brown Red*.—1, W. H. Robinson. 2, J. Fletcher. 3, J. Mayo. *Duckwing*.—1, W. L. Mason. 2, R. Newbitt. 3, J. Atkinson. *Pile*.—1, E. Walton. 2, W. Roe. 3, J. Oscroft. *Any variety*.—1, E. Walton. 2, R. H. Ashton. 3, R. Wingfield. ANY OTHER VARIETY.—1, C. Sidgwick. 2, A. S. Webb. 3, J. Long. *GEES*.—1 and Cup, H. Beldon. 2, E. Snell. 3, F. G. S. Brown. *Extra*.—1, E. Snell. 2, P. Wood. *TURKEYS*.—1, E. Snell. 2, J. Martin. *DUCKS*.—1, E. Snell. 2, A. & W. H. Silvester. 3, J. Denton. *SELLING CLASS*.—*Cock*.—1, A. & W. H. Silvester. 2 and 3, W. A. F. Fenwick. *Hen*.—1, E. S. Milnes. 2, A. Darby. 3, J. N. Lawson.

JUDGE.—Mr. E. Hutton.

### CRYSTAL PALACE POULTRY SHOW.

MAY I again, as in former years, ask through your columns for subscriptions towards a five-guinea cup for the best adult Silver-Grey Dorking cock or hen at the forthcoming Crystal Palace Show? It will save me much trouble if subscribers are kind enough at once to send me their donations without my writing to them personally.

I also am trying to collect £2, the first-prize money for an Archangel class, upon which condition a class will be given to that beautiful but neglected variety of Pigeons.—O. E. CRESSWELL, *Early Wood, Bagshot*.

### INFLUENCE OF EXTERNAL CONDITIONS ON PIGEONS' FORM.

TAKE two families of the same strain of Pouters, all average birds, place one family in a large roomy loft, where they can have plenty of action, feed them with the best of food, keep them moderately warm all the year (temperate climate), and the tendency is to increase in size and beauty, and with judicious selection of the best specimen, a first-class strain is formed. The other family is placed in a low small pen, exposed to the inclemencies of the weather, and fed on refuse, and (notwithstanding selection) is, in a few seasons, unrecognisable as being of the same strain with the well-protected family. With Carriers and Runts the same influences make or mar the strains. Therefore all the birds having size as a point must be well nursed, and especially is it necessary while they are nestlings. Keep them warm, and force them with feed. When breeding Pouters and Carriers, the difference between the summer and winter birds was so great that I stopped breeding them during the winter (until I heated my lofts), and during the breeding season, after a number of experiments, feed mostly on black-eyed peas, my best birds being forced by that easily-digested food.

By strict attention in placing these three varieties under the three influences of heat, food, and room, especially while young, one can increase the size (form) in a comparatively short time; while under the adverse circumstances of cold, &c., the form is likewise changed, but rather unsatisfactorily.

In a very short time a very perceptible change of form is discovered in Pouters that are obliged to enter low boxes; the continuous stooping elongates the back, and a pair of short-backed birds will become roach-backed, impressing that fault upon their young, which, being bred in low boxes, will never be anything else. Many a good strain of Pouters has degenerated under such external circumstances, much to the disgust of the owners. So have Carriers lost the bold upright carriage by dodging into low boxes—some of my own among them.

Suppose that instead of large we wished to obtain small size. Expose the individuals to adverse external conditions. This was vividly impressed upon me while breeding the ordinary Speckled Flying Tumbler. One very cold winter there was but one bird escaped the inclemencies of the season; it was a grizzled hen very much stunted by the cold; several times it was revived from a stiffened condition by placing it near the stove without any anticipation of its recovery; it did survive, however, though always very small and delicate. It mated the following season, and after raising two or three sets of young, died egg-bound. From the young I obtained many very beautiful specimens no larger than the Almonds.

I extended the principle to Fantails, purposely exposing them to the cold, and obtained some very beautiful birds; and I think that exposure to cold while young has some influence upon the nervous system of the Fantail in increasing the vibration of neck, as the birds so exposed had the trait to higher degree than others of the same strain.

These examples are sufficient to suggest to the reader the influence of climate, while in almost every nest of moderate feeders one of the young birds is neglected, becoming stunted for want of food, thereby illustrating, side by side with its more fortunate companion, the influence of food upon change of form.

Pigeons have occupations as well as men; or rather we should say actions productive of change of form. Every action of muscle changes form—of itself, and of the objects to which it is attached. In its minor degrees this change is imperceptible to the senses, but when it is continued for a period of time

it is more and more observable. A horse is taken from the field, thin-legged, big-bellied, with flabby and slight enduring muscles, and put in the hands of a trainer; within a few months it is difficult to recognise in the firm, compact animal, with its rolls of muscles vibrating between the glossy hide, the raw material culled from the field. Change of condition has changed the form. So of Tumblers; keep them housed, and the muscles are thin, the shoulders narrow, and flight exhausting. Fly the same birds hard; the shoulders broaden, muscles are felt like bands of steel, and hours of flight are endured. The form is changed by the conditions. As with Tumblers, so with all birds of flight.

Feathered feet is a condition that changes form. Birds with such appendages bring into more determined action certain muscles necessary to drag the feathers through or over impediments, and their influences broaden the pelvis and flatten the back, as is seen in Booted Swallows and Trumpeters. Thus it is seen that the conditions of food and climate produce size, and occupation or action unceasingly change it, and, being under the control of man, place in his hands the power of moulding forms to his wish.—DR. W. P. MORGAN (in *American Poultry Bulletin*).

At a general meeting of the Central Norfolk Poultry Club, held at the Royal Hotel, Norwich, on Saturday, 9th September inst., the Rev. T. S. Fellowes in the chair, it was proposed and unanimously carried that the next show be held on Wednesday and Thursday, 3rd and 4th January, 1877, and that in addition to poultry and Pigeons the show should be open for the exhibition of Canaries.

### BRITISH BEE-KEEPERS' ASSOCIATION.

ALEXANDRA PALACE HONEY SHOW, SEPT. 15TH, 16TH, AND 18TH.

CONTINUING our report of last week we now come to the honey, of which the show was very fine. For the second time the Association offered prizes for the largest and best harvest of honey in the comb from one stock of bees under any system or combination of systems. It was hoped that competitors using Mr. Pettigrew's large skeps would have come forward here, but such was not the case. Although Mr. Phillips gained the second prize for a harvest of 131½ lbs. in eight small supers from a small straw hive, their quality was, however, exceeded by two supers holding 120 lbs. of fine comb, exhibited by Mr. Cowan from a thirteen-frame Woodbury hive. These two exhibits were notable examples of the two systems—wood *versus* straw, and it would be interesting if Mr. Cowan and Mr. Phillips would furnish to our columns a short detailed statement of their respective managements. The Rev. G. Rayner's super, weighing 67 lbs., excelled in purity of colour either of the above, and had it been heavier would have deserved a better place than third, which it obtained. In the next class, for the best exhibition of super honey from one apiary, Messrs. Cowan and Phillips again held first and second places, the third prize going to a cottager, Mr. Walton, who was a winner in eight other honey classes—very creditable to his skill in management of his bees. In the class for straw supers Mr. Phillips took first prize with 26½ lbs., a weight which would have been nowhere in wood or glass. If we except Mr. Phillips' exhibits the show from straw hives was very poor indeed, and there can be no question that they have no chance under equal conditions with the others. We may safely say, in the south of England at least, the day of straw hives is past for those bee-keepers who go with the times.

The remaining class for wood and composite supers was well filled, boxes of upwards of 40 lbs. being quite common, the first prize going to Mr. Walton for 75 lbs. of very fine comb. Sectional supers for the first time at any show made a creditable appearance, Mr. Cowan again taking the lead with first and second prizes—one exhibit in wood, the other in tin boxes. This is a step in the right direction—i.e., to obtain fine honeycomb in a saleable form. All that the retailer has to do when selling is to wrap up the section in paper, and without waste or mess this can be done. The cost of these sections very neatly made, as exhibited by Mr. Lee and others, is under 2d. each.

The first-prize glass super was a grand one—a noble vase in the shape of an oriental oil jar well filled with 101 lbs. of honeycomb; the colour of the comb was not fine, not by any means equal to its neighbour, a globe containing 50 lbs. of exquisitely white comb, to which was awarded the second prize. The production of such supers as these may be very well for show purposes, like over-fat cattle for Christmas, but for useful purposes they are not desirable. In these two instances the bees had certainly neatly filled the glasses, but they could only be emptied by cutting and scooping the honeycomb out. What retailer would or could profitably do this, and what private person would care to see a 100-lb. glass of honey appear again and again on his breakfast table until consumed?

The exhibition of run and extracted honey was not large, and not in all cases of good quality. An attractive show of clarified honey was made by the Rev. J. G. H. Hill in small narrow

glasses, but, as the conditions of the class required not less than 5 lbs. in each class, no prize could be awarded. By far the neatest and most striking exhibit was that made by the Hon. and Rev. H. Bligh, who was honest enough to enter it "not for competition," as much of the comb was made last season by the bees. The display consisted of three glass and wood supers, flanked on each side by a pile of sections, with glasses of run and extracted honey in the foreground, the various methods of harvesting being thus brought together; the weight of the whole exceeded 100 lbs. from the single stock of bees.

It is evident that cottagers are not yet, as a body, educated for honey shows, for the Association again offered seventeen prizes in three classes, for which only eleven men competed; even this is better than in previous years, but it is very discouraging to the Committee. There were some very excellent supers shown, which need not have been in cottagers' classes to have taken prizes.

It is unfortunate that the Association cannot hold their Show earlier in the year, before the aristocracy leave town, for such only are buyers of first-class honey; and it cannot be denied that, as a "honey fair," the Exhibition was a failure, nearly all the fine supers having either been sold to the dealers at a sacrifice, or returned to their owners.

DRIVING BEES VERSUS SMOTHERING.

On Thursday night September 14th a farmer about a quarter of a mile distant was about to "put down," as he stated, his bees by the cruel fashion of brimstoning. He had six skeps, which he would have operated upon unless I had interceded for the lives of the bees and prevailed upon him to allow me to drive them, according to Mr. Pettigrew's instructions, into empty hives. I set to work about eleven o'clock, and about one o'clock accomplished the task successfully. After sunset I had the skep carried up to my garden, where I joined two stocks together in a large-sized hive, and also added one to a stock which was weak. I have been feeding every night since with a pound of syrup. The bees are very strong. How long shall I continue to feed?

In two hives small pieces of comb gave way, which I removed. It was of a very soft thin texture and very white. The syrup was placed in a soup plate covered with blue foolscap paper with holes bored in it. I found the bees devoured it to such an extent that I have replaced it with brown paper, which they do not like as well. I have seen stated that paper is a good thing to place upon the board of a super. I did so in one case, and found when removing the super that the bees had eaten the brown paper and built combs on the board. I may state, that in driving the bees and joining them I never troubled myself about the queens.—S. A. BRENNAN, *Cloghan Rock, Co. Tyrone.*

BEDFORDSHIRE BEE-KEEPING.

I BEGAN bee-keeping last year in August with one stock hive, which I bought of a labouring man. It was a small hive, and did not weigh more than 25 lbs. I fed the bees a little rather late in the season, and they managed to live through the winter. On the 28th of May they swarmed but did not settle, and went back; the next day they swarmed and settled on a little elm tree, but just as I was going to hive them they all went back; the next day they swarmed on the wall close by, but went back as before. On the 2nd of June they swarmed on a raspberry cane; I hived them and set them up all right, and put on a super that held 7 lbs. Four days afterwards the old hive cast a second swarm, so I then had three hives. Last month I bought two more good early swarms, but they were in small hives. My second swarm was in a very ill-shaped hive, so I thought I would try what I could do by driving. I smoked the hive a little with fustian rags, turned it up, and put another hive over it, wrapt a cloth round the junction, and began hammering, but owing to the bad shape of the hive many of the bees came out, but I drove most of them into the empty hive. I took the honey out, but the next morning when I came to turn the hive up there was not one bee in it; they had evidently gone to one of the other hives.

Two or three weeks ago I wrote to Mr. Pettigrew to ask him where I could obtain large hives; he very kindly gave me the address of Mr. Yates, 16 and 18, Old Millgate, Manchester. I wrote to him for a catalogue of his hives and prices; he sent me the catalogue, and I sent for eight of Mr. Pettigrew's 18-by-12-inch hives, four of his 20-by-12-inch hives, two ekes for each size, a pair of honeycomb knives, and two Lancashire bee-feeders. I have them, and am very much pleased with them. Some of the people about here say, "Have you seen Mr. Baker's great bee hives?" and three or four people have come up to see them. Yesterday I weighed my hives. One of the two that I bought weighed 30 lbs., the other 39; my first swarm 32 lbs., and the old stock 33 lbs. I have now my two Lancashire feeders on the two lightest, and mean to try to feed them all up to 40 lbs. weight each. I have taught two or three people how to drive bees instead of using the brimstone pit, and hope to teach

them to use large instead of small hives.—A. DE C. BAKER, *Old Warden, Beds.*

OUR LETTER BOX.

TUMOUR IN COCKEREL (*J. A. B.*).—It probably occasioned the leg-weakness, and, indeed, general debility, as such tumours usually do.

ADDRESS.—Mr. H. Attwood, Wenlock Street, Luton, Beds.

CHEAP BEE-KEEPER'S MANUAL (*J. F.*).—The best and cheapest book on bees is "Bee-keeping for the Many," published at our office for 4d., by post 5d.

COMBS OF YEARS OLD (*Idem*).—Bees may be kept in the same comb and hive for many years. The former will remain good for ten years, but the bees bred in them will by that time have become somewhat diminutive. We should destroy the comb after six or seven years. Hives will keep good if properly protected almost any number of years, especially if made of wood.

EMPTY DRONE COMBS (*T. W. W. Kinlay*).—The combs of which you write are not in any way injured by the sulphurous fumes, and are very eligible for super work. Place them neatly in a small super on a hive containing a swarm of bees, and let them have honey enough to fill the combs as fast as they can carry it up. We shall be pleased to have the result of your experiment for publication. At this late season we are of opinion that the combs would be sooner filled on an empty hive than on one nearly full.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.  
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876. Sept.	Baromet. corrected to 30 in. at Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Shade 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
We. 20.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	In.		
Th. 21.	30.386	54.2	54.0	N.W.	55.3	71.0	46.2	112.4	41.8		
Fri. 22.	31.252	53.0	50.0	N.	55.8	71.4	45.4	104.5	41.7		
Sat. 23.	30.061	57.0	56.3	N.	54.6	71.2	46.1	107.7	41.4		
Sun. 24.	29.846	60.0	59.7	N.N.W.	56.8	70.5	56.4	105.1	50.1		
Mo. 25.	29.771	61.0	60.1	S.E.	56.2	67.4	55.8	105.2	51.9		
Tu. 26.	29.803	61.4	58.5	N.W.	57.1	66.7	55.7	110.6	50.8		
Tu. 26	29.710	59.1	57.3	S.	56.7	68.0	52.7	91.8	49.2		
Means.	29.976	57.5	56.3		56.1	69.5	51.2	105.3	46.7		
									0.283		

REMARKS.

20th.—Rather hazy and dark morning and evening, but a pleasant day.  
21st.—Hazy morning, but followed by a beautifully fine day, rich sunset, and starlit night.  
22nd.—Fine morning and splendid day throughout, slight rain commencing at midnight.  
23rd.—Rainy morning and forenoon, but fine afterwards.  
24th.—Rainy and very dark all day, except from noon to about 3 P.M.  
25th.—Fine morning, high wind during the night and till the after part of the day.  
26th.—Dark damp morning; rainy till noon.  
Temperature rather warmer than during the previous fortnight, and much damper.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 27.

LARGE quantities of Grapes are still arriving from the Channel Islands, and the price of second-rate home-grown fruit remains low. There is still a fair supply of Apples at last week's quotations; while Pears, consisting of Marie Louise, Louise Bonne of Jersey, and Duchesse d'Angoulême, are sought after at higher rates. Kentish Cobs are lower in price.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	dozen	1	5	to	5	Nectarines.....	dozen	1	0	to	6
Apricots.....	dozen	0	0	0	0	Oranges.....	£ 100	0	0	24	0
Chestnuts.....	bushel	0	0	0	0	Peaches.....	dozen	2	0	12	0
Currants.....	dozen	0	0	0	0	Pears, kitchen....	dozen	0	0	0	0
Black.....	dozen	0	0	0	0	dessert.....	dozen	2	0	4	0
Figs.....	dozen	1	0	3	0	Pine Apples.....	lb.	2	0	6	0
Filberts.....	lb.	0	6	1	0	Plums.....	£ sieve	7	6	10	0
Cobs.....	lb.	0	8	0	0	Quinces.....	bushel	0	0	0	0
Gooseberries.....	quart	0	0	0	0	Raspberries.....	lb.	0	0	0	0
Grapes, hothouse....	lb.	0	6	0	0	Strawberries.....	lb.	0	0	0	0
Lemons.....	£ 100	12	0	18	0	Walnuts.....	bushel	5	0	8	0
Melons.....	each	2	0	5	0	ditto.....	£ 100	1	6	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	dozen	4	0	to 6	0	Leeks .....	bunch	0	4	to 0	0
Asparagus .....	£ 100	0	0	0	0	Mushrooms.....	pottle	0	6	1	6
French.....	bundle	0	0	0	0	Mustard & Cress	punnet	0	2	0	0
Beans, Kidney....	£ lb.	0	0	0	0	Onions.....	bushel	3	0	5	0
Beet, Red.....	dozen	1	6	3	0	pickling.....	quart	0	4	0	0
Broccoli.....	bundle	0	3	1	6	Parsley....	doz. bunches	2	0	4	0
Brussels Sprouts	dozen	3	0	4	0	Parsnips.....	dozen	0	0	0	0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	4	0	8	0	Potatoes.....	bushel	2	6	4	6
Capsicums.....	£ 100	1	6	2	0	Kidney.....	do.	3	0	5	0
Cauliflower.....	dozen	3	6	0	0	Radishes..	doz. bunches	1	0	1	6
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	3	0	0
Coleworts.....	doz. bunches	2	0	4	0	Salsafy.....	bundle	0	9	1	0
Cucumbers.....	each	0	2	0	9	Scorzoneria.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0
Fennel.....	bunch	0	8	0	0	Shallots.....	lb.	0	3	0	6
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	1	6	2	6
Herbs.....	bunch	0	3	0	0	Tomatoes.....	£ sieve	4	0	5	0
Horseradish....	bundle	4	0	4	0	Turnips.....	bunch	0	3	0	0
Lettuce.....	dozen	6	2	0	0	Vegetable Marrows.....	0	2	0	0	0
French Cabbage....	0	0	0	0	0						

## WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 5—11, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
5	Th		60.5	40.3	50.4	6 9	5 28	7 2	6 58	18	11 44	279
6	F		61.8	43.2	52.5	6 11	5 26	7 14	8 15	19	12 2	280
7	S		63.7	43.4	53.6	6 12	5 23	7 28	9 35	20	12 19	281
8	SUN	17 SUNDAY AFTER TRINITY.	61.7	42.0	51.8	6 14	5 21	7 44	10 58	21	12 35	282
9	M		60.7	42.4	51.5	6 16	5 19	8 9	0 a 23	22	12 51	283
10	Tu	T. A. Knight born, 1753.	61.6	43.3	52.4	6 17	5 17	8 46	1 48	23	1 3	284
11	W	OLD MICHAELMAS DAY.	61.7	42.4	52.1	6 19	5 15	9 41	3 3	24	1 19	285

From observations taken near London during forty-three years, the average day temperature of the week is 61.6°; and its night temperature 42.4°.

## CULTURE OF HYACINTHS AND OTHER SPRING BULBS.



URSERYMEN and seedsmen are now busy executing orders for these spring-flowering bulbs, and those intending to purchase should not delay any longer. When the bulbs arrive they ought to be placed in a dry position. They are usually packed in buckwheat chaff, and in a damp close place this becomes musty and causes decay in the bulbs. Early in September is the best time to pot Hyacinths for early flowering. Another potting should take place about the first week in October, and those intended to flower very late should be potted the last week in October or the first week in November. There is not much difference of opinion amongst the best growers as to the proper constituents of the potting material; good sandy loam, leaf soil, decayed cow manure, and river sand make a suitable compost. If the loam is clayey it is not well adapted for the culture of Hyacinths, but if a larger proportion of sand is added to it, it will greatly improve the compost. Six-inch pots are the best for the late-flowering sorts, and 5-inch are sufficiently large for those bulbs that are forced early.

A few words may be written as to the manner of potting. A very usual way is to fill the pot loosely with the compost, place the bulb with its base on the surface and then press the bulb down to a sufficient depth; this is wrong in practice, though it may seem right in theory. Bulbs potted in that way are often thrown out of the soil altogether, because the roots fail to penetrate into the hard material underneath. The proper way is to make a hole with the fingers for the bulb, and then in potting press the soil firmly round it. A little sand placed in the hole first is desirable.

The best position for the bulbs after they are potted is out of doors. The pots should be placed on a hard bottom of coal ashes, or some material through which worms will not care to force a passage. I generally cover the pots to a depth of 3 or 4 inches with cocoa-nut fibre refuse, and there they are left until it is time to remove them under glass. Coal ashes are not good to plunge them in, often causing decay in the flower spikes.

Many persons think that the best place to put the Hyacinths in after they are potted is under the stage of the greenhouse; this is a great mistake, a worse position could scarcely be found for them. Those pots that are placed underneath where water drains from the pots on the stage become sodden with water and the soil becomes sour; others receive none and suffer from drought, and for other reasons this place ought not to be chosen for them.

Sometimes it is necessary to retard the roots, and this I have seen done in a way that was not commendable. They were left in the plunging material until the end of February or the first week in March, and the plants had grown nearly 6 inches, having much the appearance of blanched Seakale. The leaves and flower spikes soon

became green by exposure to the light, but a check was experienced from which the plants never recovered. When the plants are intended for very late flowering they ought to be removed to a cold frame behind a north wall early in January, and the pots may be plunged to prevent injury from frost. Those who grow for exhibition will also be careful to remove their stock to a cold frame or pit at the same time.

By the 1st of January the bulbs have started to grow upward and the pots are fairly well-filled with roots, and on their removal to the cold frame or pit a small pot should be inverted over the crown for a few days, as the sudden change from the cold plunging material to the dry atmosphere of the pit might be injurious to the tender growth. If there are no other plants in the frame with the Hyacinths the lights might be kept close for a few days and the glass be covered with mats; this is the most convenient way when large quantities are grown. A heated pit is a more suitable place for them than a cold frame, for the obvious reason that they might in the cold frame be checked in their growth by severe frost, and even if mats are placed over them it is not so well as keeping severe cold from them by hot-water pipes. Plenty of air ought to be admitted even at night if the weather is mild. The flower spikes and foliage are formed very rapidly, and it is a sign of bad cultivation if the leaves do not retain their natural erect position until the spike decays.

Perhaps the best Hyacinths in the world have been exhibited at South Kensington and Regent's Park Botanic Garden, but one very often sees otherwise well-grown examples having the leaves hanging about and tied round the middle with a strip of matting. In many cases this is caused by the Hyacinths being placed in a high temperature to force them in by a certain date. I have known good growers place them in a night temperature of 70°; but this in itself must be called bad management of another kind, as the proper way to force Hyacinths is to place them in a house near the glass with a temperature of not more than 55°, and a chink for air should be left in the ventilators all night. Of course it requires a little experience as to the best time to place them in heat.

Some varieties take much longer than others to arrive at the point nearest perfection. For instance, take two single blues—Baron Von Tuyl and King of the Blues, place them in the forcing house together, and Baron Von Tuyl would be in flower from two to three weeks before the other. Von Schiller, Cavaignac, Vurbaak, single reds, are amongst the latest. Sometimes one bulb will throw up two, three, or more spikes; when this is the case all the inferior spikes should be removed, allowing only the best one to remain—that is, if they are intended for exhibition; if only for decorative purposes in the greenhouse all the spikes may be allowed to remain. When the flowers are fully expanded the plants ought to be kept as cool as possible; plenty of air should be admitted, but they ought not to be exposed to draughts, and during bright sunshine some slight shading ought to be placed over the glass. When Hyacinths are forced very early



it is a good plan to place the pots in a gentle bottom heat, so that the roots are stimulated into action at the same time as the top; this is the more necessary if the plants have to be placed in a high night temperature to begin with. I have grown the Hyacinth very successfully for many years, and the above few remarks contain all the instructions requisite for their culture.

The following list of sorts are those that I grow for exhibition, but they are also the best for ordinary greenhouse culture. The double varieties are marked with a (+).—*Red*: †Duke of Wellington, Fabiola, Garibaldi, Gigantea, †Lord Wellington, †Koh-i-noor, Lord Macaulay, Linnaeus, Prince Albert Victor, Solfaterre, Von Schiller, and Vurbaak. *Blue*: Baron Von Tuyl, Blondin, Charles Dickens, Czar Peter, De Candolle, Feruck Khan, Grand Lilas, General Havelock, King of the Blues, Leonidas, Lord Derby, Laurens Koster, Marie, Mimosa, and †Van Speyk. *Mauve and Purple*: Haydn and Sir Henry Havelock. *White*: Alba Maxima, Baroness Von Tuyl, La Grandesse, L'Innocence, Mont Blanc, and Grandeur à Merveille. *Yellow*: Bird of Paradise and Ida.

Early-flowering Tulips require very similar treatment to that of Hyacinths, except that decayed stable manure may be used instead of cow manure, and three bulbs should be placed in a pot instead of one. The single varieties are the best, and when well grown they are very showy and last a long time in beauty. Some few of the double sorts may be worth growing where there is a large collection, but I do not cultivate any of them. The most useful sorts both for exhibition and greenhouse are the following:—Chrysolora, Couleur de Cardinal, Fabiola, Le Matelas, Pottebakker (white), Proserpine, Keizerskroon, Rose Luisante, Van der Neer, Vermilion Brilliant, and Wouverman.

Polyanthus Narcissus may be placed next to the Tulip, and by many persons is preferred; they require very similar treatment, and may also be potted three bulbs in a 6-inch pot. Some of the varieties are better adapted than the others for early forcing, but all of them are beautiful, and the flowers are highly fragrant. The earliest sorts are the double Roman and the Dutch variety Paper White. They should, like the earliest Hyacinths, be potted early in September, when they may be had in flower from Christmas. Some of the best sorts for greenhouse culture are Bathurst, Bazleman Major, Grand Monarque, Grand Primo, Newton, Queen of the Netherlands, Soleil d'Or, and Staten General.—J. DOUGLAS.

### GREASY COAT APPLE.

I AM inclined to think that the "book name" of the above Apple, which has been praised by "J. J., Lancashire," is the Transparent Codlin. This Apple may be frequently found growing in Lincolnshire, where it is highly esteemed for its good qualities. About a week after the fruit has been gathered it turns exceedingly greasy, or "clammy" as it is termed in the local vernacular, hence probably the name of "Greasy Coat." Many a cottager has paid his rent from a tree of "Transparent," and in that respect I have frequently had the best of evidence, having assisted in gathering and selling the fruit for "rent day."

The Lincolnshire Transparent forms a fine stately standard tree, and it is rare indeed that it does not produce a "paying crop" of fine fruit. The fruit is large and generally conical, although many specimens are somewhat flattened. The skin is a smooth light yellow, slightly flushed on the side next the sun. The stalk is short and slender, and is inserted in a deep and broad cavity, and this cavity is occasionally mottled with light dots. The flesh is exceedingly white, clear, and juicy, hence probably the name of "Transparent," which is certainly very appropriate. As a culinary Apple none is of better quality than this, and no Apple in its season is in greater demand by purchasers who are acquainted with it. It is ready for use in September, and the crop is generally gathered in October, when the fruit will keep almost until Christmas.

I have given these characteristics of the variety in order that "J. J., Lancashire," may judge whether it is the same as "Greasy Coat" which he has mentioned on page 257. If so, I can say with him that "I do not know any other autumn Apple to surpass it."—J., Lincolnshire.

PIKE'S PEARMAIN and Domino can be procured at Mr. Pearson's, Chilwell Nurseries, near Nottingham, but I am doubtful if what I called "Greasy Coat" is known under that name; I could never obtain any young trees of it, and my trees were

very large when I was a little boy, yet I cannot think such a very valuable Apple has been lost sight of. It is everything that can be desired as a cooking Apple, being large in size, rather flat, very short-stalked; colour greenish white, very rarely streaked with red, when fully ripe pale straw-coloured and remarkably greasy to the touch. The tree is of good habit as a standard, seldom requiring pruning; the blossoms are pure white. I hope someone will recognise it from my description.—J. J., Lancashire.

### VIOLET ODORATA PENDULA.

I FORWARD for your inspection a few blooms of *Odorata pendula*, or New York Violet. I have frequently been surprised in reading the remarks on Violets made from time to time in the Journal, that this charming variety is entirely overlooked. It has with me proved to be the greatest possible acquisition. Evidently a seedling from the Neapolitan, it nevertheless surpasses that grand variety in every particular. The plants from which the enclosed specimens were gathered are planted side by side with the Neapolitan, under precisely similar circumstances.

As yet the latter shows no sign of blooming for weeks to come, while *O. pendula* is laden with the most delicious flowers. The colour, too, is much more intense and pleasing; the Neapolitan being a pale greyish lilac, while *O. pendula* is a deep mauve, and when grown under glass usually shows a dark red eye.

The perfume is the same as that of its parent—the highest possible praise; for of all the Violet tribe, I could almost say of all flowers, not one is to be compared for sweetness with the Neapolitan Violet. One can only describe its scent as a mixture of the most delicate essences of Wallflower, Heliotrope, and Violet combined. Just so sweet as not to be cloying, just so strong as not to be overpowering.

This best of all Violets, too, appears to be much more hardy than the Neapolitan, blooming freely in the open air without the slightest protection, and standing both sun and wet well. The blooms sent were exposed all day yesterday to very heavy rain, and seem little the worse for it. It is a stronger grower than the Neapolitan, as you will observe by the foliage enclosed. The two large leaves are from *O. pendula*, and the smaller one (the largest I could find) from the Neapolitan, otherwise the plants are very similar in shape and colour, *O. pendula* being a rather lighter green.

Not one of the least of its recommendations is the extraordinary way in which it increases and the ease with which it may be propagated. A single plant last spring divided into between fifty and sixty pieces, all of which grew, and are now plants from 9 to 10 inches across laden with blooms. Besides these the summer runners have produced between one and two hundred smaller plants, some of which are showing bloom already. I can only add that as a frame Violet it is superb. Last winter it gave us a succession of blooms all through the season until the end of March, and was much admired by all who saw it.—R. W. BEACHEY, *Fluder, Kingskerswell, Devon*.

[We agree with Mr. Beachey that it is one of the varieties most worthy of cultivation. The size and doubleness of the flowers and their perfume are unsurpassed among Violets.—Eds.]

### MR. PEARSON'S GERANIUMS.

I QUITE agree with your correspondent "C. P. P." as to the merits of the new varieties of Mr. Pearson's Geraniums, most of which I have grown in borders this year; and the richness and grandeur of colour so far surpasses the old bedders that I can hardly imagine the latter being used where the others are known. The enormous trusses he mentions are a fine feature, but I wonder he does not name Mulberry, which I consider the most beautiful and most extraordinary, as to colour especially; and I would add Brutus, Mrs. Wm. Brown, and Charles Smith to the list of excellent and gorgeous novelties, all Mr. Pearson's.—J. H.

### THE ROSE ELECTION.

#### DECLARATION OF THE POLL.

OPINIONS doubtless will vary as to the quality of the Roses exhibited during the present season, a season in many respects most remarkable and much to be remembered by all interested in the vegetable kingdom. In one of my replies from Hereford occurs the following passage—"The unusual dry season has

had something to do with this, as until yesterday (August 20th) we have not had sufficient rain here to go to the roots of even Potatoes for nearly four months; last date, April 30th." When we reflect that during some portion of this time the heat was unprecedented in this country it is not surprising that vegetation should suffer, and yet, perhaps, to gather ideas from reports of exhibitions, the queen of flowers has never been exhibited in such brilliant form as during the past season. I hazard the opinion that the position of some Roses in this election has been materially influenced by the dryness of the weather, and that the light Roses have had a favourable time, and will accordingly be rather higher than heretofore; notably is this the case as regards Madame Lacharme, which has been exhibited at some shows in great beauty, even to forcing our good friend the Rev. J. B. Camm to acknowledge its merits. Yet methinks Madame, even when acclimatised, will never be an "all-weather" Rose; and it is noticeable that her position—not a bad one it must be acknowledged for one who has received no small share of abuse—is due rather to amateurs than nurserymen's votes; to those in fact disposed to offer some degree of protection to tender blooms. Personally I have never bloomed her ladyship well out of doors; under glass she is beautiful. One thing I have remarked in this very extraordinary season—that Maréchal Niel, which hitherto in my experience has made only an occasional effort at blooming in the autumn months, has this year come out in a perfectly new character. Only yesterday, September 7th, when standing at a window round a portion of which a Maréchal was trained, I counted over a dozen buds in various stages of growth. If the rest of the plant was at all similarly affected there must have been more than a hundred blossoms in prospect. My own trees, though not approaching this, have a far larger amount of bloom than I ever remember.

I had written thus far when the number of "our Journal" for September 7th came to hand, and in Rev. W. F. Radclyffe's remarks on the "ninety-and-nine" I find this:—"Louis Van Houtte (Lacharme). I have the other. This and Maréchal Niel are the two finest autumnals, but somewhat delicate." Now, if our friend Mr. Radclyffe means by this that Maréchal is our "finest autumnal" bloomer, he must be far more fortunate with this beautiful Rose than we are here, and it is another proof of the great difficulty of saying beforehand what Roses are best suited to any given locality and are most likely to succeed. So far as I have seen here, where nevertheless we all esteem the Maréchal highly, the blooms are in autumn "like angels' visits," and even, when they come, but a faint echo of the former splendours. Is not this, perhaps, another proof of the importance as regards the Rose, our national emblem, of a general election as to merits from growers all over the country? By this test we at least learn the general opinion of each Rose's merits, let their local habitation be favourable or the reverse.

I have adhered to the old plan in this election, but I have been asked by one contributor to put the question in a rather different form. He wishes twenty-four underlined as "best" out of forty-eight, or perhaps seventy-two, as being numbers suited to exhibition boxes. This idea is a useful suggestion, but the election was already commenced. Taking, then, the results as they appear from the returns of voting papers, I, in common with all interested, regret the absence of names we would gladly see still giving us the weight and influence of their voice. Some there are still sending me lists, heroes in the annual Rose courts; whilst there are new names, men of might in their own localities, who perhaps have never tempted fortune in distant competitions; but the whole result, though perhaps not absolutely free from error, will nevertheless give us, at the very lowest computation, out of the first fifty on the list at least forty-five that no Rose-grower should be without attempting to grow, and this is what we desire.

The table runs as before. The first column, a number denoting the position of the Rose at the poll; next comes the name of the Rose; then initials denoting its character; then its date of introduction; next the raiser (two columns more or less incomplete, but very useful, towards the completion of which I should be glad of help); then come the three columns of amateur votes—A denoting the number of votes the Rose has received in the first class, B the number of votes in the second class, C the total of amateur votes; the same letters with an asterisk denote the same votes of nurserymen. The last column shows the total number of votes received by any Rose. This column is the test of position. Roses receiving equal votes are bracketed together, but first-class votes of course

place a Rose in higher position than second class. With this explanation the table speaks for itself.

No.	Rose.	Character.	Age.	Raiser.	A	B	C	A* B* C*	Total.		
1	Maréchal Niel	N.	1864	{ Pradel? E. Verdier?	29	0	29	17	1	18	47
Eq.	(Alfred Colomb	H.P.	1865	Lacharme	27	2	29	18	0	18	47
	(Charles Lefebvre	H.P.	1861	Lacharme	29	0	29	16	2	18	47
4	Marie Baumann	H.P.	1863	Baumann	27	2	29	17	1	18	47
Eq.	(Madame Rothschild	H.P.	1867	Pernet	27	2	29	16	2	18	47
	(La France	H.P.	1868	Guillot, fils	28	1	29	15	3	18	47
7	Louis Van Houtte	H.P.	1869	Lacharme	22	7	29	17	1	18	47
8	Marquise de Castellane	H.P.	1869	Pernet	25	4	29	10	8	18	47
9	Madame Victor Verdier	H.P.	1863	E. Verdier	15	11	26	12	6	18	44
10	Etienne Levet	H.P.	1871	Levet	19	6	25	15	3	18	43
11	Comtesse d'Oxford	H.P.	1869	Guillot, père	20	8	28	7	8	15	43
12	Duke of Edinburgh	H.P.	1868	Paul & Son	16	10	26	9	8	17	43
13	François Michelon	H.P.	1871	Levet	18	7	25	13	4	17	42
14	Mlle. Eugénie Verdier	H.P.	1869	Guillot, fils	14	11	25	7	6	13	38
15	Sénateur Vaise	H.P.	1868	Guillot, père	14	12	26	5	7	12	38
16	Devoniensis	T.		Curtis	8	15	23	7	8	15	38
17	Xavier Olibo	H.P.	1864	Lacharme	8	15	23	2	13	15	38
18	John Hopper	H.P.	1862	Ward	15	11	26	5	6	11	37
19	Horace Vernet	H.P.	1866	Guillot, fils	6	17	23	7	7	14	37
20	Dr. Andry	H.P.	1864	E. Verdier	14	10	24	6	6	12	36
21	Pierre Notting	H.P.	1863	Portemer	15	9	24	8	9	12	36
22	Marie Rady	H.P.	1865	Fontaine	12	11	23	3	10	13	36
23	Gloire de Dijon	T.		Jacotot	10	11	21	7	6	13	34
24	Catherine Mermet	T.	1869	Guillot, fils	8	19	21	8	5	13	34
25	Emilie Hausberg	H.P.	1868	Levêque	10	10	20	5	8	13	33
26	Marguerite de St. Amand	H.P.	1864	Sansal	5	19	18	7	8	15	33
27	Camille Bernardin	H.P.	1865	{ Gaubrean? Bernardin?	5	15	20	4	9	13	33
28	Prince C. de Rohan	H.P.		E. Verdier	4	16	20	3	9	12	32
29	Dupuy-Jamain	H.P.	1868	Jamain	5	17	22	0	9	9	31
30	Reynolds Hole	H.P.	1873	Paul & Son	8	11	19	3	8	11	30
Eq.	Ferdinand de Lesseps	H.P.	1869	E. Verdier	6	11	17	6	6	12	29
	Souvenir d'un Ami	T.		Belot De-fongère	9	13	22	3	4	7	29
33	Edward Morren	H.P.	1869	Granger	5	13	18	8	8	11	29
34	Madame Lacharme	H.P.	1872	Lacharme	2	18	20	1	8	9	29
35	Capitaine Christy	H.P.	1873	Lacharme	4	10	14	0	5	14	28
Eq.	(Victor Verdier	H.P.		Lacharme	8	15	18	0	8	8	26
	Fisher Holmes	H.P.	1865	E. Verdier	2	13	15	1	10	11	26
38	Souvenir d'Elise	T.			4	12	16	4	5	9	25
39	Duke of Wellington	H.P.	1864	Granger	2	16	18	2	5	7	25
40	Madame C. Wood	H.P.		E. Verdier	2	13	15	2	6	8	23
41	Maurice Bernardin	H.P.	1861	{ Levêque Granger	0	16	16	1	6	7	23
42	Comtesse de Serenyi	H.P.	1875		4	5	9	4	8	12	21
43	Souv. de la Malmaison	B.			1	9	10	4	6	10	20
44	Marie Van Houtte	T.	1871	Ducher	4	6	10	2	7	9	19
45	Niphetos	T.			3	8	11	8	4	7	18
46	Mlle. Marie Finger	H.P.	1873		1	7	8	8	7	10	18
47	Abel Grand	H.P.	1865	Damaizin	2	18	15	1	2	3	18
48	Madame Willermoz	T.		Lacharme	1	11	12	0	6	6	18
49	Mlle. Marie Cointet	H.P.	1872	Bennett*	0	10	11	1	5	6	17
50	Mlle. Annie Wood	H.P.	1866	E. Verdier	0	13	13	0	4	4	17
51	Hippolyte Jamain	H.P.	1874	Fandon	8	4	7	2	7	9	16
52	Duchess de Caylus	H.P.	1864	C. Verdier	2	9	11	0	5	5	16
53	Monsieur Noman	H.P.	1866	Guillot, père	3	5	8	2	5	7	15
Eq.	Belle Lyonnaise	T.	1869	Levet	1	10	11	0	4	4	15
Eq.	Paul Neron	H.P.	1869	Levet	1	8	9	0	6	6	14
Eq.	Beauty of Waltham	H.P.		W. Paul	1	10	11	0	3	3	14
58	Annie Laxton	H.P.	1871	Laxton	1	8	9	0	5	5	14
Eq.	Cheshunt Hybrid	H.T.	1872	Paul & Son	3	6	9	1	3	4	13
Eq.	Princess Beatrice	H.P.	1871	W. Paul	0	8	3	1	9	10	13
Eq.	Mlle. Thérèse Levet	H.P.		Levet	1	7	8	0	5	5	13
Eq.	Exposition de Brie	H.P.	1865	Granger	2	5	7	2	3	5	12
Eq.	Perle des Jardins	T.	1874		1	8	4	3	5	8	12
63	Général Jacqueminot	H.P.		Roupelet	2	8	10	0	2	2	12
Eq.	Madame C. Joigneaux	H.P.		{ Gonod? Liabaud?	1	10	11	0	1	1	12
Eq.	Madame C. Crapelet	H.P.		Fontaine	1	7	8	0	4	4	12
66	Baron Bonstetten	H.P.	1871	Liabaud	2	5	7	0	4	4	11
67	Madame Vidot	H.P.			0	9	9	0	2	2	11
68	Thomas Mills	H.P.	1873	E. Verdier?	2	3	5	1	4	5	10
69	Jules Margottin	H.P.		Margottin	2	5	7	0	8	3	10
70	Madame G. Schwartz	H.P.	1871	Liabaud	0	7	7	1	2	3	10
Eq.	Duc de Rohan	H.P.		Leveque	2	3	5	0	4	4	9
Eq.	Antoine Ducher	H.P.	1866	Ducher	0	7	7	1	1	2	9
Eq.	Auguste Rigotard	H.P.	1871	Schwartz	0	6	6	1	2	3	9
75	Prins. M. of Cambridge	H.P.	1866	Paul & Son	1	6	7	0	2	2	9
76	Monsieur E. Y. Teas	H.P.	1875		1	2	3	4	1	5	8
77	Sir Garnet Wolseley	H.P.	1874	Cranston?	1	2	3	2	3	5	8
Eq.	Rev. J. B. M. Camm	H.P.	1874	Turner*	0	1	2	1	2	5	7
Eq.	Mad. Hippolyte Jamain	H.P.	1871	Garçon	1	3	4	1	3	4	8
Eq.	Lord Macaulay	H.P.	1863	W. Paul	2	2	4	0	4	4	8
81	Comtesse de Chabrillant	H.P.		Marest	2	4	6	0	2	2	8
Eq.	Madame Bravy	T.		Guillot, père	1	7	8	0	0	0	8
Eq.	Richard Wallace	H.P.	1871	Levêque	0	5	5	0	3	3	8
Eq.	Star of Waltham	H.P.	1874	W. Paul	0	4	4	0	4	4	8
85	Maréchal Vaillant	H.P.		{ H. Jamain Leconte	0	4	4	0	4	4	8
86	Céline Forestier	N.		André Leroy	0	6	6	0	2	2	8
87	Miss Hassard	H.P.	1874?	Turner*	0	2	2	3	2	5	7

Forty-seven electors prove to be so diverse in taste as to the necessary good qualities in a Rose, and what should entitle any

\* These Roses were, I believe, brought out by those whose names are attached to them, but I am not certain that the honour of raising them is also theirs.

candidate for the honour to rank among the premier fifty, that they name between them no less than 239 Roses, and even amongst the premier twenty 115 find a name if not a throne. In continuation of the table I may add that five Roses obtained each six votes, these being Duchess of Edinburgh, H.R. (one first-class vote); Le Havre (one); Boule de Neige (two); Lyonnais (two); Madame Margottin (one). Eight received five votes, Alba rosea having two and Eliza Boëlle one first-class vote. Thirteen were mentioned four times, amongst these the more recent introduction Marie Guillot had two first-class votes. Fifteen polled three votes, thirty-five two, and no less than seventy-eight found but one solitary champion to assert their charms. In round numbers this last class forms a third of the total, and, to make the matter still stronger, no less than eleven of these solitary votes are A1.

It may interest some of our readers to know how many of the Roses comprising the best fifty in this 1876 election have been named by the several electors in their voting papers. Of the fifty Roses that head the poll, Messrs. Ryland, Berrington, Atkinson, and Walters tie in naming the greatest number—viz., forty-one. Mr. M. Davis and Rev. J. B. Camm follow closely with forty; then thirty-nine are hit off by Messrs. Burrell and Beachey, and thirty-eight by Rev. C. P. Peach, Messrs. John Turtle, Cranston, Curtis and Corp. Messrs. Scott, Laxton, Christy, Cant, and Cragg single out thirty-seven. Messrs. Robson, Mayo, Fraser, and the returning officer are content with thirty-six; whilst Messrs. H. Davis, Mitchell, Davison, and W. Paul pin their faith on thirty-five. Thirty-four find favour with Messrs. Chater, Moseley, and Rev. A. Cheales. "A LADY AMATEUR, *South of Ireland*," Messrs. Mawley, Tapner, Jowitt, and Watkins (gardener to Mr. Wood of Henley Hall, Salop), Ewing, and H. Merryweather follow with thirty-three. Messrs. Turner, G. Prince, and Rumsey thirty-two each. At thirty-one Messrs. Jessop, Smallbones, Wootten, and Harrison meet. The Rev. H. Dombrian is solitary at thirty. Capt. Rochfort and Mr. Wheeler spot twenty-eight; whilst the list is completed by Mr. H. May naming exactly half the stipulated number. It is well there should be differences of opinion, and there is no royal road to our all thinking alike about Roses, yet the above summary proves that there are certain qualities of a good Rose—form, substance, and stuff that will hold their own even in spite of diversity of taste; and if the time ever arrive for these three qualities to meet in a white, or nearly white, Rose, coupled with a good constitution, the royal yellow and the dark Roses that now head the list may quake in their shoes—I mean their sepals, lest the pride of place be wrested from them. We have been hoping for years, when will it arrive?

In some instances the different estimation in which each Rose is held by amateurs and nurserymen is strangely brought out. Here in round numbers the voters are as three to two, yet in the votes for Sénateur Vaisse, John Hopper, Dupuy-Jamain, Souvenir d'un Ami, Abel Grand, Madame C. Joigneaux, and a few others, the amateur growers far outstrip this ratio; whilst—and this we should naturally expect—the newer varieties have a greater preponderance of nurserymen as their champions, as, for instance, Comtesse de Serenyi, which has rapidly risen into a good position; Marie Finger, of which Mr. B. R. Cant remarks that it is rather better than Eugénie Verdier, Hippolyte Jamain, and very markedly Princess Beatrice. I think there is probably another reason for this, that Roses that are shy in giving perfect blooms, which when perfect are exquisite and second perhaps to none, cannot be cultivated by amateurs having only a few plants of each variety, and after a few years are discarded. Twenty times the number of plants give the nurseryman many opportunities of seeing the Rose in perfection, and his estimate is formed accordingly. I have already noticed that Madame Lacharme comes out well, still I doubt whether it is a position that will be maintained; whilst what shall we say and how explain the position of Capt. Christy? In the 1875 election of newer Roses we see him making a gallant and very nearly successful battle for the premiership, passing those grand Roses François Michelin and Etienne Levé, and now it is as low as thirty-five, with a very small proportion of first-class votes. Is it to prove "an impostor," as somebody called it not long since in our pages? Marie Van Houtte, another Rose that the amateurs do not value in proportion to the trade, is lauded in no light measure by our friend Rev. J. B. Camm, for he says of her, "The best Rose in cultivation. It has every good quality (here at least), robust in growth, erect in habit, free-flowering, a wonderful constitution. I consider that M. Ducher has conferred on the Rose

world a benefit which we can never be sufficiently grateful for, and has made all lovers of the Tea Rose greatly in his debt for life." And truly Marie Van Houtte is a gem, but in my experience, like many other gems, not so large as you might desire.

The list will repay comparison with the 1874 election, September 24th, 1874. Some Roses are in exactly the same position now as then—for instance, Etienne Levé, François Michelin, Eugénie Verdier, Dr. Andry, and others. On the other hand, several Roses have made a remarkable advance. Marquise de Castellane and Horace Vernet from 37 to 19; Reynolds Hole from 60 to 30; Madame Lacharme from 58 to 34; whilst Comtesse de Serenyi, then unknown, is now in the fifty, No. 42. There are not wanting instances of failure to maintain position—Abel Grand from 33 to 47; Exposition de Brie, 33 to 60; though this latter may probably owe some of this to its similarity to Ferdinand de Lesseps, some electors declining to name both. Mr. Cant's list proves this. We miss, as I have already said, some of the old familiar names from the list of voters, but we have a larger number than we have ever had, no less than four coming from the sister isle. One of these latter arrived when the results were being tabulated, and is not included in the forty-seven voters, but will be given in full. This list is, however, included in the following table of the Irish votes, which I thought might be of interest to all, showing us the difference that soil, climate, and other circumstances make in the table.

## IRISH LISTS OF VOTES.

No.	ROSE.	A. B. C.	No.	ROSE.	A. B. C.
1	Louis Van Houtte.....	4 0 4	14	Maréchal Niel.....	3 0 3
to	La France.....	4 0 4	to	Gloire de Dijon.....	3 0 3
4	Duke of Edinburgh.....	4 0 4	16	Prince Camille de Rohan.....	3 0 3
	Charles Lefebvre.....	4 0 4	17	François Michelin.....	2 1 3
	Madame Rothschild.....	3 1 4		Madame Victor Verdier.....	1 2 3
5	Alfred Colomb.....	3 1 4	18	Dr. Andry.....	1 2 3
to	Maurie Baumann.....	3 1 4		Marguerite de St. Amand.....	1 2 3
	Marquise de Castellane.....	3 1 4	to	Annie Wood.....	1 2 3
10	Sénateur Vaisse.....	3 1 4		Abel Grand.....	1 2 3
	John Hopper.....	3 1 4	25	Antoine Ducher.....	1 2 3
11	Comtesse d'Oxford.....	2 2 4		Jules Margottin.....	1 2 3
12	Pierre Notting.....	2 2 4		Comt. C. de Chabillant.....	1 2 3
13	Fisher Holmes.....	0 4 4	26	Edouard Morren.....	0 3 3
			27	Mlle. Eugénie Verdier.....	0 3 3

Baron de Bonstetten, Boule de Neige, Abbé Brammerel, and Duc de Cazes follow with two first-class votes; Etienne Levé, Xavier Olibo, Camille Bernardin, Thérèse Levé, Clémence Joigneaux, Triomphe de Caen, and Baron Prevost have one of each class; and the next on the list are Devoniensis, Reynolds Hole, Anna Diesbach, Ferdinand de Lesseps, Paul Verdier, Maurice Bernardin, Souvenir de la Malmaison, Madame Vidot, General Jacqueminot, Charles Lawson, Duchesse de Morny, Duchesse de Caylus, M. Noman, and Comtesse de Jaucourt. Whilst these four electors choose no less than 104 Roses, fifty-one of which receive only a single vote, many of these last figuring very high up in the general poll—a proof not only of the difference of opinion, but also that varieties of soil and climate greatly affect the well-being of her floral majesty. Would the majority of Rose-growers have said beforehand that Fisher Holmes would have stood thirteenth in such a contest?

There is also another way of looking at the various Roses, and that is very interesting as compared with the general table. There are many Roses which we would all like to have in the fifty, yet which are considered by comparatively few first-class Roses—i.e., fitted to take their place amongst the best twenty. The following table shows the first-class votes given for each Rose and its position; taking these votes only, it will be noticed that amongst some the change in position is very great.

1.	Maréchal Niel.....	46	Equal	Emilie Hausberg.....	15
Equal	Alfred Colomb.....	45		Devoniensis.....	15
	Charles Lefebvre.....	45		Marie Rady.....	15
4.	Marie Baumann.....	44	24.	Horace Vernet.....	18
Equal	La France.....	43		Marguerite de St. Amand.....	12
	Madame Rothschild.....	43	Equal	Ferdinand de Lesseps.....	12
7.	Louis Van Houtte.....	39		Souvenir d'un Ami.....	12
8.	Marquise de Castellane.....	35	28.	Reynolds Hole.....	11
9.	Etienne Levé.....	34	29.	Xavier Olibo.....	10
10.	François Michelin.....	31		Camille Bernardin.....	9
Equal	Comtesse d'Oxford.....	27	Equal	Capt. Christy.....	9
	Madame Victor Verdier.....	27		Souvenir d'Elise.....	9
13.	Duke of Edinburgh.....	25	Equal	Comtesse de Serenyi.....	8
14.	Mlle. Eugénie Verdier.....	21		Edouard Morren.....	8
Equal	John Hopper.....	20	35.	Prince Camille de Rohan.....	7
	Dr. Andry.....	20	Equal	Marie Van Houtte.....	6
17.	Sénateur Vaisse.....	19		Niphetos.....	6
18.	Pierre Notting.....	18		Hippolyte Jamain.....	5
19.	Gloire de Dijon.....	17		Monseigneur E. Y. Teas.....	5
20.	Catherine Mermet.....	16	Equal	Souvenir de la Malmaison.....	5
				Monseigneur Noman.....	5
				Dupuy-Jamain.....	5

The above are sufficient to show how very much altered the first fifty are, tried by this test. The same standard varieties head the list, and the first change noticed of any importance is the elevation of that lovely Rose François Michelin. Dr. Andry makes a still greater move, as does Souvenir d'un Ami, a Rose which the nurserymen do not appear to value according to its deserts. I write this in all humility, but I cannot help adding that in my estimation few Roses are lovelier or more conducive to the beauty of a stand as it is seen here. Comtesse de Serenyi and Marie Van Houtte materially improve their position, and Mons. E. Y. Teas rushes from 75 to equal 38th. Such lifts in the newer Roses foreshadow a useful addition to our list. Capitaine Christy makes a slight rise.

On the other hand, let us glance at the retrogression of some. Devonensis is considerably lowered, but this is slight compared to the fall of Xavier Olibo from 17 to 29th, or of Dupuy-Jamain from 29 to equal 38th, whilst Madame Lacharme falls quite outside the table, mustering only three first-class votes in her total of 29.

The general election furnishes fresh proof of the uncertainty of the new Roses and of what they may become. Anyone comparing these elections annually will see how some Roses that appeared to have a brilliant career before them are in a few short years names almost of the past; names which, heralded with a flourish of trumpets, have appeared, like a meteor on the Rose world, to disappear for ever. If we may judge from the votes, President Thiers, André Durand, Marquise de Mortemart, Souvenir de J. Gould Veitch, and Napoleon III. come in quite at the tail of the lengthy list, some only with a solitary vote, though it is equally certain that there are still a large number of good Roses, that everyone with a moderate collection would desire to possess, outside the pale of the fifty.

In concluding this portion of the election I desire to express my warmest thanks to all who have assisted me with voting papers and information, as also to those who with their lists have gratefully acknowledged the utility of these papers. Though personally unknown to them I value their kind expressions, and feel that there is something akin to friendly feeling generated, even when the subject discussed is only the merit of a flower. Some, perhaps, of the lists have been framed less carefully, at least I fancy. I have had to return more than usual from some informality; but with an Englishman's privilege we must blame the weather, for, perhaps, like Punch's cabby when the demanded fare was called in question, all might reply, "Well, anything you please, 'tis too hot to dispute about trifles."—JOSEPH HINTON, *Warminster*.

P.S.—Your correspondent, "ZUMMERZET YOKEL," will be pleased to find that some of his favourites, the Teas, stand fairly in this general election—not, however, Cloth of Gold; but then it is only here and there, very few and far between, that it finds a "local habitation" congenial to itself; but when it does it has no difficulty in making for itself "a name." I have in "Zummerzet" seen trees of it that have had their "local habitation" for a quarter of a century. Such a tree in bloom is a sight to be remembered, and, though savouring somewhat more of man's work than does the Gorse, might yet teach the beholder to pay a tribute of praise to the All-wise Creator for the sight, as Linnaeus is said to have done on his first sight of Gorse in full bloom; but these trees have a trunk the size of a good large arm, and have an air of antiquity about them. Doubtless he will be pleased to see Mr. Camm's opinion of Marie Van Houtte. We all have our tastes, and mine will lie between Souvenir d'un Ami and Catherine Mermet. I cannot say which would win, "t'other or which." When I look at "which" I am ready to vote instantly, and when I look at "t'other" I am equally ready to recall the vote. These two gems are kind to us, even in these hyperborean regions, where we have a continuous north-easter from the downs for eight or ten weeks in the spring, capable of taking off the nose of a brass monkey, and which does take the bloom off the blooms of scores of our Roses, even the hardier, if less beautiful, Hybrid Perpetuals. If "ZUMMERZET YOKEL" ends by giving us his list, what a Tea flavour there will be about it!—J. H.

### APPLES.

THE following succeed well at Lynwood, Hants, as we are informed by Mr. W. Gain, an experienced gardener:—*Dessert Apples*: May Queen, Joanneting, Devonshire Quarrenden, Early Margaret, Court-Pendu-Plat, Cox's Orange Pippin, Early Harvest, Oslin, Golden Pippin, Nonpareil, Northern Spy, Peach

Apple, Hubbard's Pearmain, Ribston Pippin, Boston Russet, Sam Young, and Winter Strawberry. *Kitchen Apples*: Chiswick Codlin, Hawthornden (English and American). The English is earlier than the other (the American), and preferable. Lord Nelson, Blenheim Orange, Emperor Alexander, Lord Suffield, Norfolk Beefing, Scotch Greening, Warner's King, Yorkshire Greening, and French Crab.

### TUBEROUS-ROOTED BEGONIAS.

THEY have this year proved a very attractive feature in the Mesembryanthemum and Heath house at Kew, and earlier in the season scarcely a day passed without inquiries being made as to where they could be obtained. Flowering commenced in early summer, and is still far from being over. To the majority of visitors they do not seem at all familiar. Although with common attention to the well-known principles of horticulture they can easily be grown, it may still be of service to detail a system of treatment found to give a good measure of success, especially as they are indispensable in every well-appointed garden.

In order that they may start with the greatest amount of health and vigour it is essential to have them properly cared for during the season of rest. The best position would be found in a house where only slight fire heat is used—sufficient to keep out frost, or a little more, and, if possible, they should stand on a bed of soil or ashes, where occasionally they can have a slight sprinkle of water if required. This is not unimportant, because if too dry they are reduced to a condition similar to the chalky state of wrongly-treated Caladiums. The sap is easily compelled to evaporate, and even if the roots are not killed they may become tough and flabby. The resting of plants is a rock on which there are many wrecks, and often because of excessive dryness.

"It is, perhaps, best to let the tubers remain in the old soil until they show signs of growth, which will be about the end of March or April. They may then be shaken out, and should be put into pots just large enough to admit the fingers round the tuber easily. Good drainage is very necessary, because water must be given liberally, especially when growth is rapid. The compost should be rich, and so porous that the roots can easily penetrate it. Fibrous loam may constitute one half, the other half may be peat and leaf soil, and then some sand and dung should be added. It is not, however, necessary to be so very precise, since the mechanical condition is perhaps of most importance, though on no account must the soil be poor.

In a collection of several varieties it will be found that all do not start at the same time, so that more than once going over will be necessary. One shift after the first potting may often be found sufficient, though it is highly beneficial to give another shift just as the plants are coming well into flower. This will feed the flowers and produce them of good size; it will also enable the plant to continue growth, without which future flowers cannot be borne. Manure water is of great value when the pots begin to fill with roots. Careful watering is of importance, as they should never be quite dry at this period of their growth. Every evening is by far the best time to water, because they will absorb during the night, and be prepared for a day's sun on the morrow. It is very trying for these and other plants to stand dry during the night and commence the next day nearly exhausted. The female flowers should be picked off when past their best, unless, of course, seeds are required.

To propagate a stock it is of little use to sow seeds, because they do not come true, and only a small proportion are worth sowing. Cuttings are easily struck, but they should be taken early so that good tubers may be formed. They may be treated much in the same way as Dahlias; but to put cuttings in now would amount to about the same thing. It must not be forgotten how very fine these Begonias are when planted on rock-work, and it may also be suggested that they would make beautiful beds.

The varieties found most effective in the Royal Gardens are Vesuvius, Dr. Masters, Sedeni, Chelsoni, Prince of Wales, Intermedia, Rosella, Roseflora, and Charles Van Eckhaute. Sedeni has had larger flowers than before seen by the firm who sent it out. This was one of the first hybrids, and from its distinct colour and qualities in general it is still one of the best. Dr. Masters is of a rich crimson, and similar in form to Boliviensis. Vesuvius is a flower of immense size, and is inclined towards orange. Chelsoni is desirable for its great profusion of bloom and freely branching habit. Prince of Wales



is of a rich crimson and allied to Dr. Masters. *Rosæflora* is of pyramidal habit, and the flowers are pink. Charles Van Eckhaute is a good white, but rather late.

### HOME ADORNMENTS.

To the various picturesque contrivances devised by Messrs. Dick Radclyffe & Co. is added that of a miniature floating island in association with their small room aquarium. The small figure of this submitted explains itself by showing how colour and perfume may be added to the usual aquatic plants by taking advantage of the adaptability of Hyacinths to this mode of decoration. That a pleasing effect can be produced in rooms and other places in the way suggested is very apparent. The plants employed are easy of management, and are certain to flourish without any special care or extraordinary



Fig. 44.

skill; and this, "the latest novelty" of the firm in question, is worthy of being submitted to those of the public who desire to see their rooms rendered attractive by artistic contrivances of this nature.

### INTERNATIONAL POTATO SHOW, ALEXANDRA PALACE.

SEPTEMBER 28TH AND 29TH.

SURELY never before in the history of the Potato, and that history has been a chequered one, has so much interest been attached to the tuber as in this our day and generation. Never before the past few years have such stimulants been offered for the introduction of new varieties, as well as encouragements been given for improvements in the culture of older sorts. This is almost entirely due to private enterprise, and if real good does not result no fault can attach to the promoters of such exhibitions as the one in question, for those immediately concerned have evidently worked well and for a good purpose.

There are those who can see no beauty in Potato shows, and are incredulous that any real benefit can arise from them; but on the other hand there are others, and not a few, who hold opinions diametrically opposite, who believe that exhibitions of Potatoes possess no ordinary attractions, and that the gathering together of the best samples of the best varieties extant cannot fail to be advantageous to the general community. The Potato in itself is not an object of beauty so much as an article of utility. But how often are these two qualities allied?

That the Potato possesses features which are attractive is as certain as that it possesses qualities which are agreeable to the palate. Possibly it is only those who have given special attention to the tuber who can fully appreciate its points of beauty, and who can discern at a glance whether that beauty is more than "skin deep." These are the experts—the enthusiasts; and it is well that there can be enthusiasts even in the matter of Potatoes, for enthusiasts in every branch of industry and science have ever been the pioneers of improvement.

Potato shows unquestionably afford a stimulus to the cultivation of new varieties, and kitchen gardens become thereby more interesting to their owners, the ground becomes better managed, and the natural requirements of the Potato are more studied by the cultivators. These are advantages produced by exhibitions. Other advantages are expected from these special shows. They should teach the public, through the judges, the standards of excellence desirable to be attained in endeavours to produce tubers in the greatest perfection. They should teach us not only that Potatoes to be perfect must be spotless, speckless, and scabless, and, if not eyeless, the growing parts must almost approach the "vanishing point," and that the form of the tubers must not be irregular and corrugated, but symmetrical, and without furrows or protuberances. These

considerata are generally acknowledged by the judges, but another important point, that of size, is not nearly so unanimously determined. It cannot be too urgently repeated that Potatoes to be acceptable must be of medium size. These are not only almost invariably the best in quality, but they are undoubtedly the most agreeable in appearance; yet how frequently do we find unwieldy size triumphant, and the big bearing away the palm of supremacy.

Besides desiring to see an authoritative veto placed against gigantic tubers, we desire especially to see the real qualities of varieties brought to the surface. This can only be done by cooking. The cooking of hundreds of dishes would entail considerable expense, but that in a measure might be met by competitors. We should like to see a great international handicap open to all the world and every kind, an entrance fee being paid on every dish submitted to the cooks. We should like to see the prizes substantial and numerous, and to know the nature of the soil, modes of management and manures used in producing the prize dishes. Unquestionable good would then result, valuable information would be forthcoming, and a competition of great interest and importance would certainly be produced. If the able and energetic managers of the Alexandra Potato Show could see their way to establishing a class of this nature they would more completely achieve the object which they have in view—improving the Potato and its modes of culture.

We will now look more immediately at the Show. There were seventeen classes, in the first of which prizes to the amount of upwards of £30 were offered. Two silver cups were provided, and other substantial prizes were offered by those who are more or less identified with Potato culture.

We will follow the arrangement of the schedule, beginning with the first and most comprehensive Class, A. This was for twenty-four varieties of Potatoes, distinct, nine tubers of each (open). All the prizes in this class were given by the Alexandra Palace Company, who contributed forty guineas to the general fund. The amounts of the prizes were £12 12s., £9 9s., £5 5s., £3 3s., and £2 2s. In this class fifteen collections were staged, and the Judges could not but have had considerable difficulty in distinguishing the relative merits of such admirable examples of culture, but eventually they awarded first honours to Mr. Porter of Old Meldrum. There could be no disputing the cleanliness, beauty, and finish of this fine Scottish collection, but a majority of the tubers were too large for table purposes. Porter's Excelsior were very large, but the tubers of Model were models as to size, as also were those of Rector of Woodstock, Victoria, and Albion Kidney. Other fine dishes were Select Blue, Bresee's Prolific, Climax, Snowflake, Wonderful (red), Napoleon, Ashtop Fluke, Crimson Walnut-leaf, Early Vermont, and Early King; while the Grampian, Blue Ashleaf, Napoleon, and Champion were rather coarse. The second prize went to Mr. Pink, Lee Court, Faversham, who also staged a splendid collection of medium-sized tubers; they were also smooth and well finished, but not so transparent as their larger rivals. Highly superior amongst the rounds were Model, Coldstream, Porter's Excelsior, Rector of Woodstock, and Red Emperor; Giant King was also good. The best kidneys were Birmingham Prizetaker, Berkshire Kidney, Bountiful, Bresee's Prolific, Hedley's Nonpareil, and Snowflake; other good dishes being Brynston Kidney, Early Vermont, Prince of Wales, Magnum Bonum, and Late Rose. Many on-lookers considered this collection equal in merit to that which secured the premier prize, but it lost the honour by the unpardonable coarseness of Scamle's Glory, Ruby, and Blanchard. The third prize was awarded to Mr. Lye, Clyffe Hill, Devizes, but the tubers as a whole were wanting in clearness, although most of them were of the correct size. The best dish was Model, followed by Early Market, Climax, Bresee's Peerless, and Lye's Favourite. The best kidneys in this group were Snowflake and Bountiful. The fourth prize went to Mr. Peter McKinlay, Beckenham, who staged a collection containing some handsome dishes, especially of McKinlay's Seedling, a rather small but beautifully clean pebble-shaped tuber; also Model, Webb's Imperial, Royal Ashleaf, and International Kidney. The remaining dishes were more or less coarse, yet the collection was quite equal to the third-prize lot. The fifth prize went to Lott & Hart, Whitehall Nursery, Faversham, for a good collection.

In Class B, for eighteen varieties, distinct, nine tubers of each, open to gentlemen's gardeners and amateurs only, the first prize, a silver cup value £10 10s. was given by Messrs. Sutton & Sons, seedsmen, Reading. The remaining prizes were £10 10s., £6 6s., £4 4s., £2 2s., and £1 1s. For these prizes there were twenty-three competitors, first honours again going to Scotland in the person of Mr. G. Donaldson, Inverurie. This was a very superior collection, and merited the handsome cup which it won. The varieties comprised Hundredfold Fluke, Victoria, York Regent, Bresee's Peerless, Yorkshire Hero, The Countess, Rector of Woodstock, Long Blue, Early Handsworth, Bountiful, Bresee's Prolific, Scotch Blue, Snowflake, Early Rose, Early King, Early Goodrich, Webb's Imperial, and Main Crop, every variety being shown in admirable condition. The second prize was awarded to Mr. Finlay, Wroxton Abbey, Banbury;

the collection containing some splendid dishes, especially of Edgcott Seedling, which is similar to Snowflake, Porter's Excelsior, which closely resembles Early Handsworth, Rector of Woodstock, and Model; and amongst kidneys we noticed Sedilla and Lady Paget as attractive. Mr. Pink was placed third; Mr. Miles, Wycombe Abbey, fourth, his collection containing a splendid dish of Schoolmaster; and Mr. Miller, Northdown, Margate, fifth, each staging admirable collections.

In Class C, for twelve dishes of Potatoes, English varieties, distinct, nine tubers of each (open), all the prizes were given by the President, James Abbiss, Esq., J.P., and amounted to £13 13s. Eight collections were staged, Mr. Porter again winning with grand and finely polished examples of Napoleon, Blue Ashleaf, Champion, Excelsior, Ashtop Fluke, Round Blue, Early King, Bountiful, Rector of Woodstock, Crimson Walnut-leaf, Golden Eagle, and Grampian. Mr. Ironside, Aberdeen, being placed second; the most attractive dishes being Carter's Main Crop, Early Handsworth, Fenn's Bountiful, and Yorkshire Hero. Mr. Minchin, the Nurseries, Hook Norton, being third with rather large tubers, the best being Model. Mr. Pink had the fourth place with clean handsome dishes of tubers, which must have been considered a trifle too small, or the collection would have been placed a step higher. Turner's Union, around red variety, was very good in this collection, as also were Model and Waterloo Kidney.

In Class D, twelve dishes of American varieties, the prizes also amounted to £13 13s., the first prize of £6 6s. being given by Messrs. Daniels Brothers, seedsmen, Norwich. In this class there were eleven competitors, and the produce was decidedly more coarse than that in the preceding class. The first prize went to Mr. Pink for medium-sized tubers of King of the Earlies, Early Rose, Eureka, Ruby, Climax, Brownell's Beauty, Bresee's Prolific, Early Vermont, Bresee's Peerless, Onida, Early Goodrich, and Snowflake, all good. The second prize was awarded to Mr. Lumsden, Bloxholm Hall Gardens, who had grand dishes of Breadfruit, Snowflake, and Bresee's Peerless, the remaining sorts being somewhat coarse and large. The third prize went to Mr. Minchin for a good level collection, the best dishes being Snowflake, King of the Earlies, and Hundredfold Fluke; the fourth prize going to Messrs. Lott & Hart, Faversham, for a creditable collection.

Class E, nine varieties of Potatoes, distinct, nine tubers of each (open). All the prizes were given by Mr. John Coutts, James Street, Covent Garden, London. Nineteen collections were staged in this class, most of them being of high merit. Mr. Porter was again in the ascendant, his tubers being "got up" in the "highest style of art." Nothing could be more perfect than his dishes of Excelsior and Snowflake; the others, which were the same as those in Collection A, being also superior, but some of them too large. The second prize went to Mr. Finlay, Wroxton Abbey; Mr. Farquhar, Fyvie Castle Gardens, Aberdeen-shire, being placed third, Early Diminisk, a roundish flat Potato, being splendid; and Mr. Ironside fourth. A dish of Early Handsworth was very fine in this collection; indeed, all were good.

Class F, six dishes of Potatoes, distinct varieties, nine tubers of each, open to gentlemen's gardeners and amateurs only; first prize, a silver cup, value £5 5s. All the prizes in this class were given by Messrs. James Carter & Co., seedsmen, High Holborn, London, and brought forward not less than twenty-eight excellent collections. The silver cup was well won by Mr. Porter with such tubers as he alone can grow, dress, and show; the second prize also going to Scotland, Mr. Littlejohn, Corsendal House, Aberdeen, securing it with big Potatoes. Mr. Miles, Wycombe Abbey, was awarded the third prize. In this collection was a grand dish of Schoolmaster, a variety having the shape of Victoria with the scaly skin of York Regent. The fourth prize went to Mr. Finlay, Edgcott Seedling being in splendid condition.

Class G, six dishes, three round and three kidney, distinct varieties, nine tubers of each (open). The first prize of £4 4s. in this class was given by the Lawson Seed Company, Edinburgh and London. Fifteen exhibitors competed, Mr. Porter being first, Mr. Littlejohn second, Mr. Pink third, and Mr. W. Finlay fourth, who all staged admirable examples of popular show varieties.

Class H, four dishes, distinct varieties, nine tubers of each, open to gentlemen's gardeners and amateurs only. All the prizes in this class were given by Messrs. Hooper & Co., seedsmen, Covent Garden, London. Twenty-five collections were staged, Mr. Miller, Northdown, winning with Carter's Main Crop, Ashtop Fluke, Breadfruit, and Snowflake; Mr. Lumsden being placed second with Main Crop, again fine; also a capital dish of Excelsior. A collection without an owner's name was placed third, and Mr. Reynolds, Beech Cottage, Horsham, fourth. In these collections Main Crop and Snowflake were pre-eminent.

Class I, two dishes of English varieties, one round and one kidney, nine tubers of each (open), all the prizes being given by T. Kyffin Freeman, Esq., Pinner Wood, Middlesex. In this class eighteen competed. The prize-winners were, first Mr.

Finlay with splendid dishes of Lapstone and Rector of Woodstock; second Mr. Frisby, Blankney, with equally superior examples of Lapstone and about the best dish of Porter's Excelsior in the Show; third Mr. Littlejohn with Early Handsworth and Champion Kidney; and fourth Mr. Lumsden with Conqueror and Rector of Woodstock.

Class K, two dishes, American varieties, one round and one kidney, nine tubers of each (open). In this class there were twenty-four competitors; the first prize going to Mr. Carwill, High Street, Lewes, for grand dishes of Snowflake and Bresee's Prolific, Mr. Farquhar being second with Snowflake and Brownell's Beauty, Mr. Pink third with Vermont Beauty and Snowflake, and Mr. Lumsden fourth with Snowflake and Early Goodrich: a very imposing class.

Class L, dish of any white round Potato, nine tubers (open), all the prizes being given by Mr. John Harrison of the firm of Harrison & Sons, seedsmen, Leicester. This was also a very fine class, the exhibitors, thirty-two in number, staging admirable produce. The first prize was awarded to Mr. Porter for Excelsior; the second to Mr. Bennett, Enville, Stourbridge, for Schoolmaster; the third to Mr. Farquhar for round and handsome specimens of Snowflake; the fourth to Mr. Ross, Wreford Park, Newbury, for Criterion, a seedling resembling Schoolmaster.

Class M, dish of any coloured round Potato, nine tubers (open), all the prizes being given by Mr. Richard Dean, Ealing, London. Thirty-six exhibitors competed in this class, and much of the produce was coarse. Mr. Lumsden won the first prize with the most handsome dish of Main Crop that has perhaps ever been exhibited, Mr. Ironside being second with the same variety, Mr. Farquhar being third with Princess of Wales, which much resembles Main Crop, and Mr. Ross fourth also with Main Crop.

Class N, dish of any white kidney Potato, nine tubers (open). Thirty-one competitors entered the lists in this class, and many dishes of splendid quality were staged. Mr. Reynolds was placed first with Devonshire Seedling, a handsome white kidney; Mr. McIntosh, Corsendal House, Aberdeen, being second with Nonpareil, Mr. Lumsden third with Ashtop Fluke, and Mr. Finlay fourth with Edgcott Seedling. The prize dishes were very excellent.

Class O, dish of any coloured kidney Potato, nine tubers (open). Twenty-nine dishes were staged in this class, many of the tubers being coarse, and none really tempting in appearance. Mr. G. Bagerley, Sylverstone Lodge, Newark, was placed first with Early Vermont; Mr. Miller, Hampstead Gardens, Newbury, being second with a better dish of Late Rose; Mr. Porter third with unwieldy specimens of Blue Ashleaf; and Mr. Treacher, The Marsh, High Wycombe, fourth with Early Vermont.

Class P, dish of any variety of Ashleaf variety of Potato, nine tubers (open), all the prizes being given by Messrs. George Gibbs & Co., seedsmen, Down Street, Piccadilly. Twelve dishes were staged in this class, each of them being very good. The first prize went to Mr. Reynolds for handsome examples of La Belle d'Orleans, second to Mr. Farquhar for Sandringham Kidney, third to Mr. Lumsden for Veitch's Improved Ashleaf, and fourth to Mr. Miller for Royal Ashleaf. The prize dishes were very superior.

Class Q, dish of any white Regent Potato, nine tubers (open). Twelve dishes were also staged in this class, Mr. Finlay being first with Manchester Hero, Mr. Lumsden second with Rintoul's White Don; Mr. Armstrong, Goldington, Bedford, third with York Regents; and Mr. Baldwin, New Brompton, fourth with Early Don. The tubers in this class, excepting the prize-winners, were coarse.

Class R, dish of Victoria variety of Potato, nine tubers (open). We expected to find dishes of higher quality in this class. Out of seventeen competitors Mr. Finlay won first honours, followed by Mr. Abrahams, Firgrove Lodge Gardens, Weybridge; Mr. Kerr, Dargavie, and Mr. McKinlay, Beckenham.

Certificates of merit were awarded to Mr. Barker, Littlehampton, for a dish named "Superior." It is a red kidney variety, the tubers were of the correct size for cows, being too large for pigs; to Mr. Lye for Lye's Seedling, a handsome white roundish variety with russet eyes; to Mr. McKinlay for International Kidney, a large and beautiful white tuber, also for Alexandra Seedling, a fine white variety; to Mr. Lumsden for Conqueror, a seedling from Paterson's Victoria, but of kidney shape, with a rough cracking skin, by far the most promising seedling kidney in the Exhibition; to Mr. Fenn for Worthington G. Smith, an exceedingly handsome round white tuber of the Rector of Woodstock type; and to Mr. Ross for Garibaldi and Criterion.

There were also large miscellaneous exhibitions. Messrs. Carter & Co., High Holborn, exhibited a hundred varieties of Potatoes, including some splendid examples of Snowflake from the farm of H.R.H. the Prince of Wales, also a large collection of Gourds, ornamental Beet, and fruits of a Cucumber of great promise, the result of a cross between Tender and True and Telegraph. Messrs. Daniels Brothers, Norwich, exhibited upwards of eighty varieties of Potatoes, and Messrs. Harrison and

Son, Leicester, seventy varieties. Many highly superior dishes were included in these collection.

Mr. Amies exhibited Kales, Maize, &c., which had been grown on poor soil with the aid of his manures, and nothing more luxuriant could be imagined than these robust plants.

Mr. Turner had a certificate of merit for the fine new Dahlia Christopher Ridley, and similar awards were given to Mr. Rawlings, Romford, for Singularity, amber and white, and Earl of Beaconsfield. Mr. G. Smith, Edmonton, also exhibited Dahlias.

A new Melon, exhibited by Mr. Frisby, Blankney Gardens, Sleaford, attracted considerable attention. It is a seedling from Bloxholm Hall, the fruit being oval-shaped and handsomely netted on a greenish yellow rind. The flesh is of a deep green colour is tolerably firm, yet extremely juicy, and possesses a fine aroma. In the "judging" which this Melon underwent every particle of the fruit was speedily eaten—a rather unusual occurrence, especially during a season like the present, when Melons have been of indifferent quality. This fruit was named Blankney Hero, and was unanimously awarded a certificate of merit. It is not a little singular that two Melons of such high quality—Blankney Hero, green flesh, and Bloxholm Hall, scarlet flesh—should have originated in the same locality, the estates of Blankney and Bloxholm in mid-Lincolnshire, almost adjoining.

The Exhibition was arranged in the Concert Hall, the dishes being placed in six rows on five tables, each 100 feet in length, and the display was quite imposing. No doubt some inferior dishes were staged, the tubers being large and unshapely, but by far the majority were admirable examples of culture. The Show altogether was an excellent one, and highly creditable to Mr. McKinlay and his coadjutors. It was also well managed, the judging being quickly done and the awards promptly placed on the collections.

## ROYAL HORTICULTURAL SOCIETY.

OCTOBER 4TH.

**FRUIT COMMITTEE.**—Henry Webb, Esq., V.P., in the chair. Mr. J. Ollerhead, gardener to Sir Henry Peek, Bart., Wimbledon House, sent a Queen Pine. He also sent a Melon Conqueror of Europe, and a dish of Trophy Tomato, to which a letter of thanks was awarded. Mr. Dean of Ealing sent a preserve made from Pumpkin, and strongly flavoured with lemon and ginger. It was considered a good preserve, but was too sweet. Mr. Francis Dancer of Little Sutton exhibited a dish of fine specimens of Northern Spy Apple. Dishes of Madame Treve and Buerré Superfin Pears and Black Monukka Grape were received from the garden at Chiswick. Mr. Baker, gardener to Rev. G. W. B. Bell of Bampton, Farrington, sent roots of a red Beet, Excelsior, which was not considered an improvement on existing varieties. Mr. R. Westcott, gardener to the Duke of Cleveland, Raby Castle, sent a Capsicum called Princess of Wales, which was considered too much like Prince of Wales.

A very fine collection of Grapes was exhibited by Messrs. Lane and Son of Berkhamstead, which contributed very much to the interest of the meeting. Both in size and symmetry of the bunches and the size of the berries they exhibited evidence of very superior cultivation. There were three handsome bunches of each of the following:—Mrs. Pince's Black Muscat, Golden Queen, Black Hamburgh, Foster's Seedling, Black Prince, Buckland Sweetwater, Muscat of Alexandria, Gros Guillaume, Trebbiano, Gros Colman, Bowood Muscat, Muscat Hamburgh, Dr. Hogg, and Lady Downe's. The Muscats of Alexandria were especially worthy of notice from their size and their rich colouring. The Committee unanimously recommended the Council to award a Davis medal to Messrs. Lane for the exhibition.

**FLORAL COMMITTEE.**—W. B. Kellock, Esq., in the chair. The Council-room presented quite a gay appearance at this meeting, and there was a good attendance of horticulturists. The tables around the room were well filled with an excellent group of Orchids from the collection of Messrs. Veitch & Sons. A fine display of Carnations in pots, Bouvardias, and Dahlias from Mr. Turner, Slough; table plants from Mr. Ollerhead, gardener to Sir Henry Peek, Wimbledon House, and other noticeable exhibits. The most striking plant amongst the Orchids was *Vanda cœrulea* with four spikes, one of which contained twenty flowers. *Vanda suavis* was also represented by a vigorous specimen. Amongst the Cattleyas in this collection we noticed *C. exoniensis* in two varieties, *C. Brabantia*, *C. Dominiana*, and *C. superba*. Amongst the Oncidiums were *O. Forbesii*, *O. crispum*, *O. macranthum*, and *O. tigrinum*, and there were small plants of *Odontoglossums*—*Rossii*, *vexillarium*, and *Roezii*; *Phalenopsis rosea*, *Lælia præstans*, and several *Cypripediums*. This was an exceedingly bright and effective group of plants, and for which a Davis medal was recommended by the Committee to be awarded.

The Carnations exhibited by Mr. Turner comprised about fifty plants in 5 and 6-inch pots, each plant being sturdy in growth, exceedingly healthy, and furnished with splendid flowers. Coronation, a rich crimson scarlet variety, was very striking;

Scarlet Defiance, Rose Perfection, Vestal (white), and Miss Jolliffe (flesh) are excellent perpetual bloomers; and amongst the flaked varieties Sir G. Wolseley, Gloire de Lyon, and Oscar were the best. These varieties, grown as here exhibited, are invaluable for winter decoration, and for affording cut flowers of the most enjoyable nature. A cultural commendation was awarded for the collection. The Bouvardias exhibited by Mr. Turner comprised admirably grown plants of *B. vreelandii*, *B. Hogarth*, *B. umbellata alba*, and *B. longiflora flammea*. The plants were in 6-inch pots, each containing twenty to fifty heads of flowers. A vote of thanks was awarded. Mr. Turner's Dahlias were numerous and fine: first-class certificates were awarded to Christopher Ridley, a scarlet flower of superb form and finish; and to Burgundy, a fine flower, puce, shading to purple in the centre. Mr. Rawlings also exhibited Dahlias.

A first-class certificate was awarded to Mr. Wills, Melbourne Nursery, Anerley, for a new *Dracæna Gladstonei*, a magnificent and stately plant with broad arching foliage, bronze, heavily margined with crimson. Messrs. Veitch & Sons received a similar award for a handsome plant of the charming *Maranta Massangeana*. Messrs. H. G. Henderson & Son, Wellington Nursery, St. John's Wood, had a vote of thanks for a striking *Tillandsia* with crimson bracts and purple stamens. Votes of thanks were also awarded to Mr. Dean, Ealing, for dwarf French Marigolds; and to Mr. Ollerhead for lovely blooms of *Nymphæa dentata*. Mr. Ollerhead had a similar award for a group of well-grown table plants; he also exhibited a highly-coloured *Ananassa sativa variegata*, a large *Platycerium*, and a remarkable plant of *Selaginella phlegmeria*, resembling a miniature *Araucaria* laden with pendulous catkins.

Mr. Perkins had a vote of thanks for a bouquet of Begonias fringed with Ferns. W. Kayner, Esq., St. Andrew's, Uxbridge, exhibited *Amaryllis Rayneri*. Messrs. Rollisson & Sons, Cattleya Mylami, a cross between *C. crispata* and *C. granulosa*. Mr. Noble, Bagshot, *Gynurium argenteum pumilum*, which was certificated last year, and trusses of his new Rose Crimson Bedder, showing its extremely free and continuous-flowering character. Mr. G. F. Wilson exhibited a fine plant of a dark-spotted variety of *Tricyrtis hirta*; Messrs. E. G. Henderson & Son, Coleus Pine-Apple Beauty, similar to but brighter than Lady Burrell; Mr. Dean, Violet Victoria Regina; Mr. Chambers, Westlake Nursery, Isleworth, Begonia Magenta Queen, which had been grown in the open air, proving its suitability for window-box decoration; and a collection of cut trusses of Double Pelargoniums were exhibited from the Society's Gardens at Chiswick.

## AMERICAN ROSE AND SNOWFLAKE POTATOES.

HAVING grown the American Rose Potato on light sandy soil for several years, I find it to be a very heavy cropper and of excellent quality; but there is one fault I have to find with it, and that is it is rather pink in its flesh, and on that account it will not do for the parlour table, but it is undoubtedly a first-rate sort for market purposes. In my opinion it will be superseded by Snowflake, another American variety equally as productive; tubers large, beautifully shaped, and when cooked of the finest flavour. It boils mealy, and the flesh is as white as its name implies.—H. Mason, *Bisbrook Hall*.

## TROPÆOLUM SPECIOSUM.

I OBSERVE an answer to an inquiry respecting *Tropæolum speciosum*, which reminds me of what I have recently seen of that plant in the Highlands of Scotland and what hundreds of tourists must have been struck by. As we were leaving Loch Katrine and were driving through the Trossacks towards Callendar our attention was attracted to one of the modern villas which have invaded that silent region by a beautiful climber of a brilliant scarlet colour with which the walls were covered. We were not near enough to be able to find out what it was that produced the unusual effect. The botanical and horticultural knowledge of our party was exercised, and many were the suggestions to account for the cause of it. Our curiosity was kept on the stretch, and it was not till we reached Killin that we had an opportunity of examining what we were inclined to think was a new introduction. There, however, we found the plant covering the whole fronts of many of the cottages with as great luxuriance as the common Canary plant, and then we found it to be *Tropæolum speciosum*. On continuing our journey to Kenmore we discovered not only the toll-house just as you approach the bridge leading to the town, but an extensive trellis adjoining, one mass of scarlet flowers and beautiful blue-black fruit. The only term applicable to this remarkable sight is that it is gorgeous. How is it that the cultivation of this plant is confined to this part of the country, where it is perfectly hardy and grows without any care,

throwing up annually a perfect entanglement of rambling branches clothed with scarlet flowers? We afterwards found that the whole district is full of the plant, and that almost every cottage is more or less adorned with it in the summer. You recommend it to be kept in a greenhouse during the winter and planted-out to bloom in summer, but from what I have seen it is quite hardy, and it would be well worth while to try to establish it in other parts of the country.—A RAMBLER.

### TOMATOES AND THE POTATO DISEASE.

REFERRING to the statement of Mr. Moorman in his communication on the subject of Tomatoes in your impression of the 28th ult., that "in cold wet seasons they are liable to a disease similar to the disease in Potatoes," my experience appears to show that they take the true Potato disease from neighbouring Potatoes whenever there is wet weather, and this so certainly that it is useless to think of growing them in this county near Potatoes except under glass. I say in this county (South Wales), because it is possible that when grown against walls in the warmer southern counties of England a part of the crop at all events may be ripened in time to escape the infection.

In 1874 I grew Tomatoes surrounded on two sides by Potatoes at some little distance, the result being that the crop became badly affected soon after the disease made its appearance on the Potatoes. This year the same thing has occurred, while in two neighbouring gardens—one of which has no Potatoes in it, and in the other of which they were all dug in the middle of August—the Tomatoes have remained quite sound up to the present date (29th of Sept.), notwithstanding the almost continuous wet weather since the commencement of the month. It is certainly true that my Tomatoes were also healthy till a short time after the rains began (by which time I had gathered a few fruit), so that it appears that wet weather is necessary for the conveyance of the infection; but as, notwithstanding being subjected to the same weather that mine were, my neighbours' Tomatoes have escaped the disease, the neighbourhood of Potatoes appears to be a necessary cause of it.—A. BOYLE, *Amroth, S. Wales.*

### PRESENTATION TO MR. JOHN ROBSON.

VERY general was the regret which was felt by our readers when we announced the severe and sudden affliction which befell one whose name was so familiar to them and whose counsel was so reliable; and now equally great will be the satisfaction to learn that Mr. Robson has been able in person to receive a graceful mark of recognition from his friends and admirers. The termination of his labours at Linton Park was felt to be an appropriate time to recognise the merits of one who has done so much for gardening both by his work and pen. A committee was therefore formed and steps taken to carry out the project of a testimonial, and the labours of that committee closed in a pleasant manner on the evening of the 29th ult. in the village inn at Linton.

At a social meal there spread J. Philpott, Esq., as a principal promoter, presided, and after making a brief address vacated the chair in favour of J. Neve, Esq. (who was for many years Steward at Linton), and who was deputed to ask Mr. Robson's acceptance of the offerings of his friends. After duly honouring the toast of the Queen, Mr. Neve uncovered a handsome silver inkstand, and a purse containing £126 with a list of 160 subscribers, and presented them to Mr. Robson. In doing this Mr. Neve remarked that after having had close business connections with Mr. Robson for many years he desired to bear public testimony to his worth and ability. Not only as gardener, but as an accountant and assistant Mr. Robson had rendered him invaluable aid, while his character for integrity, industry, and urbanity had won him the approbation of all around him. Mr. Neve dwelt with emphasis on the generosity of Mr. Robson's disposition in ever seeking to impart knowledge and in being constantly ready to render assistance to all needing a helping hand, and his matured judgment had been of the greatest benefit, not only to the district, but also, through the press, to the general community.

When the applause had subsided, Mr. Robson, in the midst of an ovation almost overwhelming, in a modest speech and tremulous accents, accepted this one more mark of recognition which had been kindly rendered to him for "trying to do his duty." When he first became acquainted with the object of the Committee his first desire was to stop any further pro-

ceedings, but on further consideration he thought it would not be right to others for him to do so; therefore as an encouragement to others to labour for a reward, and also as his acceptance of the gifts of his friends might possibly enable him to better help some others who might be afflicted as he had been, he received with sincere thanks the kindness of those who had considered him worthy of their notice and regard.

On the inkstand was the inscription—"Presented to John Robson by his neighbours and friends, as a token of their regard and esteem.—Linton, October 1st, 1876."

The Secretary of the fund spoke of the many flattering letters he had received in regard to Mr. Robson; Mr. Bradley, Preston Hall, and Mr. Goddard, Hunton Court, alluded to his well-proved friendship to them and all gardeners to whom he could be of service; and the representative of the *Journal of Horticulture* acknowledged the valuable aid rendered by Mr. Robson to horticultural literature for a period extending over a quarter of a century.

Mr. Robson had already been the recipient of a gold watch and chain for his services in connection with the Maidstone Gardeners' Society, and he is held in the greatest esteem by all classes in the neighbourhood in which he has so long resided.

### POMOLOGY AMONG THE WOOLHOPIANS.

Who is there who has not heard of the Woolhope Naturalists' Field Club? which holds its annual celebration at Hereford, and where for many years, among other investigations into the natural history of the district, its members have performed such extraordinary feats in fungophagy as well as in fungology that the rest of the world have come to regard them as objects of a special Providence. Hereford is noted for other products than fungi, and having eaten or tried to eat every kind of fungus they could lay their hands upon they now turn their attention to pomology, and we hail as an augury of good results this disposition on the part of so accomplished and energetic a Society as the Woolhopes are.

For the first time in 1875 it was proposed that fruits should form objects of investigation on the occasion of the great annual meeting which is usually held at Hereford in September. The attempt to get together a collection of the fruits of the district being a new one, and as no great publicity was given to it, the number exhibited was not large. In the hands of such earnest people as the Woolhopes a small failure is only a stimulus to greater exertion; and this year, though the crop of fruit in the district is as partial as it is in almost all other parts of the country, the exhibition was for the year one which was full of interest, and was a token of greater things for the future.

The meeting was held in conjunction with that for the fungi in the large hall of the Free Library, and the collections crowded the surface of two wide tables extending the whole length of the room, and one cross table at the end. The number of plates was 637, of which 291 were occupied with Apples, and 346 with Pears. The exhibitors, of whom there were twenty-seven, were not attracted by the allurements of prizes, for this was an occasion for business, and not for "a show." The Woolhopes are not mercenaries, and whatever they undertake is in the interests of science without fee or reward, except what they derive from the consciousness of having contributed to the advance of knowledge.

Among the chief contributors were Sir Henry Stanhope of Holme Lacy, who sent forty dishes of Pears and twenty of Apples. The former were grown upon oblique cordons trained against a wall, which, judging from a photograph we have seen and reports we have heard, are the very perfection of good management. Nothing could afford better evidence of this than the remarkably fine specimens that were exhibited. This collection, and a very fine one of twenty-five varieties of Pears sent by Dr. McCullough of Abergavenny, consisted of the modern varieties grown for dessert, and they were both striking examples of what may be achieved when people are in earnest, both in the excellence of the fruit and the correctness of the nomenclature. Mr. Watkins of Marden sent forty-three dishes of Apples, Mr. John Bosley of Lyde thirty-five of Apples, Miss Lutwyche of Mynde forty-nine dishes of Apples and Pears. Mr. Griffiths of Tillington, the present occupier of Mr. T. A. Knight's old place, where he carried out many of his experiments, sent forty-two dishes of Apples and Pears, and among them we noticed more of Mr. Knight's varieties than in any of the other collections. This was naturally to have been expected, but it struck us as singular that in a county where Mr.



Knight lived, and in the interests of which he toiled throughout a long life, there should remain so few traces of his labours. With the exception of the Downton Pippin, and here and there a stray dish of one or two varieties, there was no evidence in this great collection of fruit of any great change or lasting impression he left behind him. The Rev. C. H. Bulmer of Credenhill sent twenty-five dishes, very correctly named; Mr. Hill of Eggleton sent twenty-four of Apples and Pears, Miss Guthrie of Hereford sent twenty-three of Apples and Pears, Rev. J. Davis of Moor Court sent twenty-five of Apples and Pears, all well grown, as were also the twenty-seven dishes of the Rev. A. Clive of Whitfield, and the thirty-three of Apples and Pears contributed by W. F. Herbert, Esq., of Credenhill; Miss Bulmer sent a good collection of twenty-four Apples and Pears, and Wegg-Prosser, Esq., of Belmont, contributed the large number of sixty-three dishes, forming a most interesting collection. Mr. Davis of Marden sent thirty dishes of cider Apples, and another collection of the same came from Mr. Davis of Burlington; Messrs. Cranston & Mayos sent twenty-four dishes of Apples and Pears, Capt. Doughty of Hereford fourteen, Mr. F. Boddendam of Hereford fourteen, Mr. Morris of Dewall fourteen, and Dr. Bull of Hereford fourteen. This collection of Dr. Bull's was remarkable for a dish of very handsome Gloria Mundi Apples, which formed a great attraction. The other contributors of smaller collections were Sir Herbert Croft, Mr. Curling, Mr. Cam, Dr. Moore, Mr. Hereford, and Rev. W. Thomas of Llanthomas.

We shall not on the present occasion go into particulars about the different varieties of fruit that were exhibited, with the exception of those grown for cider; and it will be interesting to many of our readers to know the names of those varieties which contribute to produce the noted vintages of Herefordshire. At some future time we will enter more in detail upon the individual merits and uses of the different varieties; meanwhile we append a list of those which were exhibited at this meeting.

Bromley.	Germain.	Red Norman.
Black Norman.	Green Norman.	Red Styre.
Crimson Queening.	Handsome Normandy.	Redstreak.
Cook's Kernel.	King Charles.	Styre.
Cowarne Red.	Kernels.	Sam's Crab.
Cowarne Queening.	Morning Pippin.	Skyrme's Kernel.
Com Apple.	New German.	Spreading Norman.
Cherry Norman.	Old Pearmain.	White Musk.
Foxwhelp.	Pig-nose Pippin.	Underleaf.
Forest Styre.	Philip Mandy.	Upright French.
Goose Apple.	Royal Wilding.	Yellow Styre.
	Rockley's.	

The frequency with which the names "Norman," "Normandy," and "French" occur in this list confirms the statement of contemporary writers, that it was through the exertions of Lord Scudamore in the reign of Charles I. introducing some of the best cider Apples from Normandy that the orchards of Hereford were so much improved. It was he also who introduced the Redstreak, hence called Scudamore's Crab, but we have no record whence it came or how it originated. For a long period after its introduction it was regarded as the most valuable of cider fruits, and Philips says—

"Let every tree in every garden own  
The Redstreak as supreme."

Now its place is usurped by the Foxwhelp, which yields a vintage not inferior to some of the renowned *crus* of France. This is notably the case at Credenhill near Hereford, where we can testify from personal experience that a sparkling cider of the most wholesome and generous description is made which is far superior to much of the sparkling wine that comes from abroad. An uneasy feeling exists among the orchardists of Herefordshire that the Foxwhelp is dying out. There is no ground whatever for this alarm. The old trees are certainly dying out, and will inevitably die out like every other organised body as the result of exhaustion and old age; but by careful selection of healthy scions and grafting them on vigorous-growing stocks, this and any other variety of fruit tree may be perpetuated in a state of perfect health. The contrary opinion advocated by Mr. T. A. Knight has been proved to be entirely fallacious, and no better instance of this could be given than that furnished by Mr. John Boxley of Lyde, who exhibited at this meeting fruit of the Foxwhelp yielded by trees which had been "five times past through the graft." The meaning of this is that scions had been first taken from the old tree and grafted on young stocks. From the trees thus produced more vigorous scions were again taken and grafted on young stocks, and this successive grafting having been performed five times, the result was a perfect regeneration of the

constitution of the tree, and a great improvement on the size and appearance of the fruit. This improvement of the fruit is considered an objection by the orchardist on account of the quality of the cider being inferior to that produced by the old trees, and being deficient of the peculiar smack and aroma which is the great characteristic of the matured Foxwhelp. This is an objection, however, which age will remove. It is well known that in all wine-producing fruits the quality of the liquor is much superior when made from fruit grown upon aged trees than from that which is yielded by young trees; and therefore as the trees become older so will the cider become relatively of finer quality. Fruit from young trees is always more succulent than from those that have attained to perfect maturity. This suggests the question, "When has a tree attained to perfect maturity?" The answer depends on the nature and individual constitution of the tree. Some are more robust and enduring than others, and some are more adapted than others to particular soils, and upon these depends the period when the several varieties attain perfect maturity. To arrive at this question most readily we have to observe what is the duration of the existence of the variety in a particular soil, and just as we estimate the perfect maturity of any organised being at middle life, so may we estimate the perfect maturity of an Apple or a Pear tree when it has attained what is known to be the half of the period of its average existence. We have no fear, therefore, that the Foxwhelp or any other variety that is worth preserving will ever die out if the proper means are taken to preserve it.

Dr. Hogg of the *Journal of Horticulture* was present by invitation, and in company with Rev. C. H. Bulmer and Dr. McCullough examined every dish, and corrected the nomenclature where this was necessary, supplying the names of such varieties as were wanting. Dr. Hogg has also undertaken to assist the Club in any attempts they may make in investigating the numerous fruits of the district.

Some may say, and some no doubt will say, "Of what use is such a meeting as that where no prizes are awarded?" We have already indicated that the Woolhope Club is a scientific body, consisting of gentlemen whose sole object is the advancement and cultivation of science, and we regard it as a great step gained that pomology has fallen under their protecting shadow. Every subject to which they have hitherto applied their attention has been benefited, and now that they have taken up the study and investigation of fruits we may hope for an elucidation of the pomology of one of the greatest of the orchard districts of England in a manner which has never even been attempted. The partial work of the late Mr. Thomas Andrew Knight, as we find it in his "*Pomona Herefordiensis*," gives a very inadequate idea of the extent and importance of the subject as it exists in Herefordshire alone. These orchards are teeming with varieties of great excellence of which the world knows nothing, and it is to be regretted that at the meeting held last week there were so many exhibited to which no names were attached. This omission we are informed was a reluctance on the part of the exhibitors to give the local names, from a supposition that they were all possessed of "book names," and that someone learned in the subject would be able to identify them. The fact is they had no "book names," and were never known out of their own districts, hence the importance at any subsequent meeting of having all such exhibited with the names by which they are known in the orchards where they are found. What we would recommend the Woolhope Club to do is to form a pomological committee of those of its members who make a special study of fruits. A committee not exceeding twelve in number would be found the most serviceable, and let them investigate the history of these nondescript varieties, compare them with the recognised kinds, and ascertain their relative merits and uses. Such a committee properly constituted and favoured with the benignant smile of the indefatigable Dr. Bull could do valuable work which would confer lasting benefit on the commercial enterprise of the county. Under the committee, too, a "*Pomona Herefordiensis*" worthy of the name could be produced which would become a permanent authority and work of reference on this important question.

### EUCALYPTUS GLOBULUS.

THE answer you have given to a correspondent in the *Journal* of last week respecting *Eucalyptus globulus* is no doubt applicable to England, but in Ireland it has been found perfectly hardy, and promises to be not a merely curious but a profitable

tree. At Muckross Abbey, Killarney, for instance, there are trees 30 to 40 feet high which have never been injured by frost; and at Sheldon Abbey, the seat of the Earl of Wicklow, it succeeds so well that his lordship contemplates planting it on an extended scale for useful purposes.—VISITOR.

### EARLY APPLES.

WILLINGLY, if not promptly, will I respond to the request of "WILTSHIRE RECTOR," and, as far as I am able, assist in determining which Apples are the most useful and profitable. I am ready to contribute my mite of experience for two reasons—namely, because the subject is one of general importance, and because the Rector is one from whose writings I have derived profit, and it would be selfish were I reluctant to offer a trifle in return. I regret having forestalled "WILTSHIRE RECTOR" in my sermonising on useful Apples, feeling that he is a better preacher than I am; but if I appropriated his sermon I left him a text on which he made some seasonable observations. Previously to entering on my subject I may mention, for the special gratification of our friend, that he has served me as bad as I served him. If I took as my text his text, and descanted on the merits of Lord Suffield, Duchess of Oldenburgh, &c., the Rector has equally seized my idea in giving prominence to that valuable dessert Apple Irish Peach. This is the very Apple that was most prominent in my mind when I suggested that "A NORTHERN GARDENER" had omitted to mention some other good early dessert Apples. I can now only add my testimony to that of "WILTSHIRE RECTOR'S," that Irish Peach is one of the most delicious and valuable early dessert Apples in cultivation, and I join in the regret expressed that it is not more frequently seen on the tables of autumn exhibitions. Can it be the fact that an Apple so excellent is not in general cultivation, or is it considered too small for exhibition? for I observe that judges have a great fancy for "big" dessert Apples, and, as I think, on that point err.

I have cultivated the Irish Peach as an espalier on the Crab stock and as a pyramid on the Paradise stock, and I find it excellent under both modes of culture, but best from the Paradise stock—better especially in colour, and a little earlier in ripening. I find the tree to be a free grower, hardy, and productive, while as to the quality of its fruit I consider it superior to any other August Apple. Nearly all early dessert Apples are juicy and refreshing, but Irish Peach possesses these qualities and more, for it has an aroma which none of its contemporaries can approach. Its quality I may sum up as a mixture of Devonshire Quarrenden and Ribston Pippin, and I certainly advise all growers of early dessert Apples to try Irish Peach.

The next early Apple of superior merit which I felt was omitted from the short but good list on page 164 is the Oslin. This Apple in Dr. Hogg's "Fruit Manual" is honoured with six synonymes, which, by the way, is no small testimony of its worth. This Apple is a very favourite one in the midland counties, and I know also it is extensively and successfully cultivated "farther north." I have not tried it as a dwarf on the Paradise stock, but as a standard on the Crab stock it has given the most satisfactory results. The tree grows freely but not strongly, and is of compact habit, not attaining a gigantic head. It is a regular but not a heavy bearer, and the fruit is handsome and excellent, indeed is fully "as good as it looks," which is more than can be said of all Apples. The colour is yellow covered with brown dots. The fruit occasionally cracks, and this cracked fruit is generally most delicious. Boys are proverbially good judges of Apples, and the Oslin in an orchard of good sorts is their especial favourite. It is a favourite also with wasps, which is another mark in its favour. The flesh is crackling, juicy, and possesses a full rich flavour peculiar to itself. It ripens towards the end of August, and while it is excellent when eaten off the tree it continues good for three weeks after being gathered. This Apple I strongly recommend for summer use. I am indebted to the "Fruit Manual" for the following "bit of history" in reference to this good Apple:—

"This is a very old Scotch Apple, supposed to have originated at Arbroath; or to have been introduced from France by the monks of the abbey which formerly existed at that place. The latter opinion is, in all probability, the correct one, although the name, or any of the synonymes quoted above, are not now to be met with in any modern French lists. But in the "Jardinier François," which was published in

1651, I find an Apple mentioned under the name of Orgerau, which is so similar in pronunciation to Orgeline, I think it not unlikely it may be the same name with a change of orthography, especially as our ancestors were not over-particular in preserving unaltered the names of foreign introductions."

I add yet another Apple of the greatest value both for its earliness and excellence, and thus complete a trio not inferior to the trio named by "A NORTHERN GARDENER." The last I name is the earliest of the three. It is Early Harvest. In the manual referred to Early Harvest has no less than twelve synonymes. It is there recommended for espalier training on the Paradise stock, and the tree is referred to as a free but not a vigorous grower. I will now venture my testimony that on the Crab stock and grown as a standard it grows fully as vigorously as is desirable, producing large leathery foliage and very stout wood; in fact few kinds grow more freely than this, and few bear more satisfactorily. The fruit is of medium size and of a beautiful glossy yellow colour with a red tinge on the sun side. It is exceedingly juicy and refreshing, without possessing any particularly rich flavour, and is a most enjoyable Apple on a hot day. It ripens early in August. I hold this Apple in the highest estimation for its earliness and general good qualities, and I cannot conceive a collection being complete without it. I can name other good Apples ripening somewhat later than those named, but I consider them as being autumn rather than summer Apples. In this category I place Kerry Pippin. It is the really early Apples that are too often overlooked by those establishing collections, for my experience is precisely similar to that of "WILTSHIRE RECTOR'S," that at no time are Apples so thoroughly relished as during the hot days of summer.

I am now about to make a bold assertion, and challenge all England to name six early Apples better than these I have now named and the three recommended so worthily by "A NORTHERN GARDENER." I will, as near as my experience enables me to do, place them in the order of ripening: Joan-neting, early in July; Early Harvest, end of July; Irish Peach, early in August; Summer Golden Pippin, middle of August; Oslin, end of August; and Devonshire Quarrenden, end of August and early in September. The time of ripening varies of course in different districts and on varying soils, but the above I have found to be the order of succession of these six good summer dessert Apples.—A MIDLAND FRUIT-GROWER.

P.S.—Since writing the above the Journal of the 28th inst. has arrived. In reply to the inquiry in the correspondence column I can state that Domino, which was recommended by myself and "J. J., Lancashire," can be had both from Mr. Pearson, Chilwell, and Mr. Merryweather, Southwell. I have had trees true to name from both these nurseries.

### PEARS AND APPLES AT BONNYTOWN, ST. ANDREWS, N.B.

FOR a good many years I have been collecting varieties of Pears and Apples that would suit this soil and climate; and when it is stated that one variety has come here under its own proper name of Beurré Diel, and also done service as Colmar d'Été, Brown Beurré, and Doyenné Boussoch, it must be allowed that there are a few difficulties in the way of an amateur.

To gain information I have to-day sent off a small box with one variety of Pear and six of Apples to be named, as some grafts of so-called Clydesdale Apples appear to be of southern origin—e.g., Devil-may-care Apple is the Golden Winter Pearmain, and Bothwell Castle is Devonshire Quarrenden, and so it may be with others. No. 1 is called Star of Clydesdale, and is a very handsome and good early Apple. I hope it will not be passed before arrival. 2, Is it Hicks' Fancy? It is a great bearer as a standard. 3, Lady Wemyss, an early Apple, and a late specimen had to be taken; so it is not so well coloured as it should be, but it is a correct type as to shape. It is an immense bearer, and is sent because I heard a lady state that it was the best cooking Apple in her experience. 4 Came from London eight years ago as Nelson's Glory, but is not the Nelson's Glory of the "Fruit Manual," neither is Stirling Castle, at least as my tree of it goes. 5, Tower of Glamis. This variety is sent out here as Tower of Glamis, but it does not answer the "Manual," having five sides. 6, A free-bearing early Apple, which is very good when allowed to fall and eaten immediately afterwards. 7 Is a Pear which was named Susette de Bay, which it is not. The real Susette keeps till June, and is then not worth the trouble of keeping. Late

Pears do not come to perfection here on walls, so I have tried them under glass, where several succeed very well, this one amongst the rest; but it is a winter Pear, not a late one. It was of very fine quality until three years ago, when it suddenly became uneatable, as also did its next neighbour Zephirin Grégoire, another very fine winter Pear under glass. On examination it was found that the roots had penetrated the ferruginous subsoil; so of course this was removed, and it is to be hoped the fruits will be as good as ever.

Any information as to varieties that will ripen under glass with their full flavour, or at least with a finely diluted flavour, will be thankfully received by many of your readers as well as by—K. K.

## EARLY WRITERS ON ENGLISH GARDENING.

No. 19.

SIR JOSEPH BANKS.

GENUINE and ardent love of natural history and gardening in all its branches actuated Sir Joseph Banks in the great and



Fig. 45.—Sir Joseph Banks.

successful efforts he made for their improvement. He was born at Revesby Abbey, the seat of his father in Lincolnshire, in 1743. He was educated at Eton and Oxford, which University he left in 1761 on the death of his father. He thus inherited an ample fortune, yet the active pursuit of scientific discoveries was more to his taste than literary ease. In 1763 he made a voyage to Labrador and Newfoundland. In 1768 he went round the world with Cook, and in 1772 he made a voyage to Iceland and the western isles of Scotland. Natural history was the favourite of his scientific studies, and every department of it was enriched by his researches. In 1771 he was elected L.L.D. at Oxford. In 1778 he was created a Knight of the Bath and chosen to the Presidency of the Royal Society, and three years afterwards he was made a baronet. He at first gave much dissatisfaction to some of the members of the Royal Society, so as nearly to cause it to divide, but the dissatisfaction gradually passed away, and from that time until his death, May 9th, 1820, he was universally hailed as a munificent friend of science and literature. But he was also thoroughly acquainted with horticulture as a science and an art. He was the ruler as well as owner of his garden at Spring Grove. In the Transactions of the Horticultural Society between the years 1809 and 1820 he contributed essays on the Potato, Strawberry, Roman stoves, training fruit trees, American blight, and Fig culture.

Cuvier in an eulogium before the French Academy of Science

observed that ten times collections intended for the Jardin du Roi had been delivered up by the captors through the influence of Sir Joseph Banks; that men of science were aided freely by his library and purse, and that noble collection of books is still open to the public, for he bequeathed it to the British Museum.

Besides his numerous contributions to the transactions of various societies he published two small works, "An Account of the Causes of the Diseases of Corn called Blight, Mildew, and Rust," and "Circumstances Relative to Merino Sheep."

## ROSES FOR A SMALL COLLECTION.

I THINK that if a few of the small growers would express their opinion on the various merits of their favourites it would be a great boon to the class of which I make a part.

There is a class of Rose-growers whose selections vary, perhaps, from twenty to forty varieties, whose means would not allow them to purchase more than one or two of a few good varieties, but a Rose list usually contains such a diversity of names, colours, &c., that to pick a small lot from the owners' descriptions, which I admit are in general very good, a purchaser is at a loss where to begin and where to end. A few practical papers with the small growers' opinions of the various sorts which do best with him, and, stating the soil and position, would be a guide for intending purchasers of small means and requirements.

I will set the example, and state at the outset that the locality where I live is not one of the warmest in the midland counties, for Byron begins a well-known poem with

"Hills of Annesley, bleak and barren;"

but it is not only the climate, but the soil that is naturally cold, and we have often frost and snow until very late in the spring, which is very much against the forward culture of the Rose, yet in spite of all this we manage to grow some pretty good Roses; in fact not far, if any, behind our more favoured rivals, as returns show from our local exhibitions.

My position is an open and rather exposed one, with no shelter against the west and south-west winds. The soil is a heavyish loam, with clay about 1 foot 6 inches from the surface, so that I think that the soil makes up in part for the position.

I have about fifty varieties and about seventy in number. I will begin, not as they stand in the list, but as they stand in favour. One of the best, if not the best with me, has been this season Pierre Notting. I have grown it very fine. I have only one plant, and that is a half-standard. I cut for one show two blooms of this variety. Madame Victor Verdier is very good both on Briar and Manetti; Baroness de Rothschild, splendid; Marie Baumann, one of the best; Alfred Colomb, good, but I think a little wanting in colour; Louis Van Houtte, very good; Charles Lefebvre, rather thin this year; Etienne Levet, first-rate, never been short of a flower when wanted, blooms very freely; Countess of Oxford good, but requires shading, as the colour is soon gone; Comtesse de Chabillant, a very nice cupped Rose, rather small with me; Dr. Andry, a very good old Rose, blooms pretty well; John Hopper, pretty good, very hardy, but rather flat; Sénateur Vaisse, very good with me, but short in petal; Edward Morren, very good and full, but not one of the best to open; Annie Wood, grows very freely, and has had some good blooms; Marquise de Castellane, pretty good; Maurice Bernardin, a very good free-bloomer; Bessie Johnson, a very nice flower with a grand scent; Capitaine Christy, very fine flower, and I think will prove a good Rose; Reynolds Hole, very good in colour, but with me a rather shy bloomer; La France, very good rich colour, but it has failed to come out well this year; Dupuy-Jamain, pretty good; Madame Lacharme, somewhat better than last year, I think the season has suited it; Henri Pages, bloomed well, but the colour is rather dead; Souvenir de la Malmaison, a first-rate bloomer, but for exhibition wants showing in large bud, as it opens full much.

I think you now have a list of the best twenty-four for exhibition as they have grown with me, and I hope some other small growers will similarly contribute for the benefit of all.

—C. R., Notts.

MR. ALEX. MCKENZIE, Landscape Gardener and Garden Architect, of 1 and 2, Great Winchester Street Buildings, London, E.C., has had the honour to receive a magnificent diamond pin from His Majesty the King of the Belgians as a souvenir of his recent visit to Brussels, accompanied by a letter

from his resident Minister, M. Jules Devaux, thanking him for the advice he had given with reference to His Majesty's winter garden at Laeken.

### THE STANDARD CURRANTS & GOOSEBERRIES.

It is now about twelve years since this method of growing the Currants and Gooseberries has become general in Europe; since then it has rapidly assumed large dimensions, so that now they are quite an article of commerce with the nurseries there.

I first saw them at the Pomological Institute of Dr. Ed. Lucas at Reutlingen (where I spent two years), in the autumn of 1869. Being immediately taken up with the idea, I wrote Dr. Siedhof, my kind patron, about them. He wrote, "Send me a dozen," and since has largely increased the number—now having about fifty in all.

He has imported about one hundred more for special friends of his in different sections of Hudson Co., N.J.; so they have been thoroughly tested. Not a speck of mildew during seven years.

This method of grafting naturally does away with and supersedes the old and tedious method of trimming up the plants on their own roots to the standard form and then have it ruined by the borer, as *Ribes aureum* is exempt from the attacks of the borer.

The stocks are grown by stooling, removed and potted in fall and placed in a frame till about the holidays, when they are brought into a cool house—say from 45° to 50°.

In about three weeks they have started sufficiently for grafting to begin. The methods employed are the common whip-graft, without cutting the tongue, and the cleft graft for large stocks. Only perfectly well-hardened woody stocks should be selected, all others rejected. Previous to grafting they are kept shaded well. After grafting, however, they are given the full light and a little more heat. Bottom heat is not absolutely necessary, but, of course, in a measure is very beneficial. Frequent sprinkling after starting from the graft is also very beneficial.

By pinching the tips of the stocks we obtain branched heads, and so are enabled to set several grafts on one plant. Instead

of potting, some firms just envelope the roots in a ball of moss fastened with wire. These are very handy for shipping. They must at no time be kept too moist. Are saleable next fall as one-year-olds.

The fruit we exhibited at the Centennial were not show berries, as the English grow them, for the plants were literally loaded with fruit. We have measured berries  $5\frac{1}{2}$  by  $3\frac{3}{4}$  inches in circumference, weighing from  $1\frac{1}{2}$  to  $1\frac{3}{4}$  oz.

These statements are actual facts, and may be relied on. If these notes will be of any use to you we shall be glad to have you use them. — (*American Gardener's Monthly*.)



Fig. 46.—THE STANDARD GOOSEBERRY.

### ADIANTUM AMABILE.

AMONGST the species of the genus *Adiantum* there are already so many of sterling merit and beauty, that any new introduction must possess those qualifications in a high degree to be justly recommended for cultivation; nevertheless, some lovely aspirants have of late been added to the family circle, not the least worthy amongst which is the *Adiantum amabile*, than which no more appropriate specific name could have been given, except it were by the addition of "odoratum," a term peculiarly suitable on account of the agreeable perfume of the young fronds. This most distinct species was discovered by the late Mr. Pearce in Peru; it is a free-growing cool-stove Fern, attaining from 15 to 18 inches in height, the fronds averaging 14 inches in length by 10 ins. in width. The fronds are light green, thin, and membranaceous, and the pinnae small. These peculiarities, together with the gracefully curving lines assumed by the fronds and the pinnae, render it

one of the most lovely of the Maidenheads, and cannot fail to render it a favourite in all choice ferneries. It succeeds best in the intermediate house, and should be placed in a position where it can fully develop its fine drooping fronds. Direct sunshine, even as early as 7 A.M. during the summer months, is most injurious to the young fronds; the plants should therefore be placed in a position where it can receive sufficient light without being subject to the direct action of the sun. The pot should be placed on a cool bottom, such as ashes. The vapour arising therefrom is most conducive to the plant's well-doing.



Wooden latticework is about the very worst material on which to attempt Fern-growing; if such already exist, it can easily be covered with slate or zinc, with a layer of coarse sand or ashes upon it to hold moisture. The compost in which I have found this Fern to succeed best is a mixture of two parts fibrous peat, one part sandy loam, a little leaf soil not much decayed, with sufficient coarse silver sand and charcoal broken small to keep the whole porous and sweet.

If a large specimen is wanted in the shortest possible time it should never be allowed to become pot-bound, but be shifted on as the roots begin to travel round the pot. The finest fronds, both in *A. amabile* and *A. gracillimum*, are generally thrown-up when the roots have fairly filled the pot, but before the plant becomes absolutely pot-bound.

It is advisable with such quick-growing Ferns as the *Adiantums* always to have young stock ready to replace those that have spent their energies. During the summer months frequent dewings-over with the syringe will greatly benefit the growth, and should also be occasionally resorted to during the winter, especially if the plants are placed near to hot-water pipes. A temperature of 50° to 55° suits it admirably during the winter. It is easily propagated by means of the roots forming a dense mass of growth on the surface of the pot, which, if not removed, will very soon impair the growth of the mother plant. As a Fern for hanging baskets it will doubtless be in great request, as few Ferns look so imposing and so graceful.—A. W., *Lincoln*.

### GROWING HYACINTHS IN WATER.

HAVING grown a great quantity for a number of years I find the following points if carefully attended insure success: First, selecting those kinds that are best adapted for this mode of growth, a list of which I append. Secondly, the water, whether it be rain, river, or spring, must be clean and never allowed to become offensive. The bulb should be placed so that the water just touches the base; if higher it will be liable to rot the bulb. They should be put in a cool dark place until the roots have nearly reached the bottom of the glass, when they must be gradually brought to the light (avoiding the chimney-piece), in order that their leaves and flowers may be fully developed in a healthy manner. Keep them if possible in an equable temperature—extremes of heat and cold are injurious. As the water wastes the glasses must be replenished; keep them nearly full. By these little attentions spikes of flowers equal to those grown in pots or any other method may be obtained.

The following are a few Hyacinths best for glasses:—*Blue*: Baron Von Tuyl, Grand Lilas, Orondates, Argus, Charles Dickens, Prince of Saxe-Weimar, Bloksberg, Mary. *White*: Grand Vainqueur, Elfrida, Lady Havelock, La Tour d'Auvergne, Themistocles, Voltaire, Queen Victoria, Grandeur à Merveille, Anna Maria, Prince of Waterloo. *Red*: Robert Steiger, Duke of Wellington, Madame Hodson, Von Schiller, Lord Macaulay, Norma, Waterloo, Grootvorst, Lord Wellington (double rose).—W. B. L.

### THE ROCK GARDEN NEAR LEICESTER.

It is so seldom one has the pleasure of seeing a rock garden surrounded with wild and romantic scenery as this is, that I feel it would be an injustice to lovers of alpine if I did not give a passing notice of so lovely a spot. It is located on the outskirts of Charnwood Forest, on the east side, about seven miles from Leicester and five from Loughborough. I entered the grounds by the north entrance and ascended direct to the highest point. Looking from this elevated point eastward you see over the vale of Leicestershire, while just at the base of the hill are to be seen the disused slate quarries, now converted into fine sheets of water. Looking south you see the charming woods belonging to the Earl of Stamford and other owners, and in the distance Bradgate Park—in fact whichever way the eye turns some charming scenery presents itself. Having taken a good survey I began to descend in the direction of the rock garden and the newly-erected residence of Alfred Ellis, Esq. I had scarcely descended a few yards when I found myself in the midst of a dense plantation of Spruce, Pines, &c., through which I had to wend my way. This recalled to mind pleasant botanical rambles I had enjoyed in the neighbourhood of Ajaccio in Corsica, where the mountain sides, and frequently the summits, are densely clothed with *Pinus Laricio* and other species. The rock garden is

about half way down, and looks so comfortably and naturally placed that it would not suggest to the eye its being artificial if it were not surrounded by an iron fence and wire netting to protect the alpine from their enemies the rabbits.

The rockwork itself is not much elevated, but is in mounds, with large stones judiciously and picturesquely placed, with walks winding between. Nearly the whole can be viewed from the windows of the Hall.

The upper portion—that furthest from the walks, is planted with the coarser kinds of alpine, a few climbers, and dwarf shrubs; while the lower parts—those nearest the eye, are adorned with the dwarfer and rarer species of alpine plants, many of which have become uncommonly fine specimens. For instance, the dwarf *Phloxes* *P. verna*, *P. frondosa*, and *P. Nelsoni* have formed tufts three-quarters of a yard in diameter; the *Aubrietias*, *Sedums*, and *Acena novæ-zelandiæ*, have formed similar masses. *Polygonum vaccinifolium* was rambling away finely, yet very neat. *Geranium armenium*, with its large handsome rose and crimson flowers, was quite at home; so also was the fine autumn-flowering *Sedum spectabile*. There was a very fine plant of *S. Browni* (a plant I am afraid little known). The *Campanulas* were quite gay; Mr. Ellis informed me that he had not succeeded with *C. Joysii*, which evidently requires to be kept both warm and dry during the winter months. *Nierembergia rivularis* was remarkably good, covered with its snow-white flowers. *Rubus arcticus*, the Arctic Bramble, was well represented; so also were the *Cistuses*, *Dianthus*, *Saxifrages*. *Iris cristata*, *Onosma taurica*, and *Ramondia pyrenaica*, &c., were all excellent specimens.

Amongst the larger and stronger kinds used for the top I noticed *Yuccas*, *Statice*, *Lathyruses*, *Clematides*, *Berberises*, *Alyssums*, &c. Another plant which struck me as being extremely handsome was *Tropæolum polyphyllum*. I should say that its shoots were from 2 to 3 feet long, and abounding with large yellow flowers. This plant I consider is A1 as a rock plant or for covering banks. *Tropæolum speciosum* was also thriving well, but as yet in its infancy.

Mr. Ellis had adopted a very simple but effective method to supply with moisture those plants which require it constantly and regularly. It was by placing a common flower pot near the plants filled with water, the hole at the bottom of the pot stopped with damp clay, so as to allow the water slowly to escape; the pots are re-filled every morning. The only objection to this method is the unsightliness of the pots. The difference in the growth where the pots were placed was very apparent.

A little distance from the rock garden, about half way between that and the residence, were two circular beds cut out of the grass. In the centre of these beds were placed large rocks, so arranged as to give the impression that they were so placed naturally, while the remaining portion of the beds was planted with suitable flowers. The *Clematis* flowers would show well upon the stones if the plant rambled over them. These two beds were unique, they were in such perfect harmony with the surrounding scenery, and a sort of link between the real flower beds and the rock garden.—R. P.

### NOTES AND GLEANINGS.

A TREE of *CEDRUS DEODARA*, one of those forming the beautiful avenue of Deodars at Charleville, the seat of Lord Monck in County Wicklow, is now showing a profusion of young cones. We are not aware this has ever been observed before.

THE name commonly given to the *TRITOMA* is "Poker Plant" or "Red-hot Poker," neither of which can be considered either elegant or poetical. In Ireland it is called "Torch Flower," and we recommend this as a name more fitting for so beautiful a plant.

THE Commissioners of Her Majesty's Works and Public Buildings intend to distribute this autumn among the working classes and the poor inhabitants of London the surplus BEDDING-OUT PLANTS in Battersea, Hyde, the Regent's, and Victoria Parks; and in the Royal Gardens, Kew, and the pleasure gardens, Hampton Court. The clergy, school committees, &c., by applying to the superintendents of the various parks, will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

WE have received the prospectus of an INTERNATIONAL HORTICULTURAL EXHIBITION which it is proposed will be held in Carlisle in 1877. It says—"The central position of the

border city and its remarkable railway facilities are so well known that the proposal will not only be encouraged by the leading local horticulturists, but will also be largely supported by the principal London and other metropolitan exhibitors, as well as by those on the Continent." A provisional committee has been formed, of which Mr. W. Baxter Smith is the Chairman; and a meeting of influential supporters will shortly be held, when fuller details will be entered into. We cordially wish the enterprise the greatest success. Such an exhibition we hope will be well supported on the borders; and if the great populations of the mining and manufacturing districts on the east and the spinners of Lancaster and Preston can be attracted in sufficient numbers, we see no reason why the undertaking should not be a financial success, weather permitting.

— *GREVILLEA ROBUSTA* is used in the mixed "subtropical" bed in front of the No. 2 Museum at the Royal Gardens, Kew. It is one of the most elegant subjects for this style of gardening, and we do not remember having seen it so used elsewhere. It might be classed with *Acacia lophantha*, as affording beautiful fern-like foliage, but from its more dwarf habit is adapted for other combinations. If seeds are sown now it would be easy to raise plants a foot high for planting-out next season. They should, however, always be sown when received, as the proportion of plants obtainable soon diminishes, though fresh imported seed may be expected to produce a good crop. Plants in 48-sized pots are extremely useful for a variety of purposes; for window and table decoration they are valuable from the durability of their foliage.

— "J. S., Lanark," writes—"With reference to the notice taken in your Journal of the 7th September (page 211), of the Cockscombs grown by Mr. Hawes, Henerton, I think it right to state that there are to be seen growing at Ridgepark, near Lanark, the seat of Charles Lindsay, Esq., a lot of Cockscombs of splendid quality, measuring, one 42½ inches by 16 inches across the comb, another 41 by 16, another 39 by 15, and the rest on an average 35 by 12, all grown in 10-inch pots, and the plants only 10 inches above the pots. The grower, Mr. Henry Sime, gardener, Ridgepark, like Mr. Hawes, has been well known for years in connection with the cultivation of Cockscombs, and this year without the slightest difficulty he carried off first honours at Glasgow and Edinburgh exhibitions, besides, of course, our local show."

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

EXCEPT gathering and arranging fruit there has not been much done in this department. It is quite necessary to gather the fruit when it is dry, and also to handle it carefully. Fruit that has begun to decay is removed at once. The importance of doing this cannot be too much impressed upon those who have, like us, little to spare and are anxious to make the most of what they have. Nearly all the fruit has been gathered from the walls, and when this is done the trees may be looked over, and any pruning that is required should be done. We do the most of this in the summer season, and as a general rule but little of it is required now. It is always necessary to look over the trees, and to cut off any spurs that project too far. It has always seemed a rough method to take a stumpy birch broom, as some do, and switch the decaying leaves off; but it is some advantage to remove them, as the sun and air can then act more freely upon the trees. When the leaves are switched off in this way the work ought to be done with a new broom, and the shoots should be gently stroked upwards, never the reverse way of the buds. When there are only a few leaves they may be gently removed by hand, and the trees should be gone over about twice a-week. It is more particularly Peach and Nectarine trees that require this attention. The American blight can readily be discerned on the trees now, and should be destroyed by dipping a small brush in paraffin, or we have found boiled oil effectually destroy it. It ought to be well worked into the crevices of the bark, where the insects find shelter.

A correspondent inquired last week about the treatment of Raspberries; they had not made sufficient growth to produce fruit. Now, the Raspberry requires generous treatment, but it often has the very reverse of this; the plants are stuck into any sort of ground without having any preparation made or manure applied, and odd corners that will not grow any other crops well are thought to be good enough for them. In hot dry districts about the best position for Raspberries is a border behind a north wall, and if the soil is light a few cartloads of heavy clay soil will be of great advantage. The border ought to be trenched

and manured in the same way as has already been advised for Strawberries. The way we have found Raspberries give the best results from a given piece of ground is to plant the canes in rows 3½ feet apart, and 18 inches between the plants; grow about three canes to each plant, and tie them to stout wires strained tightly along the rows about 3 feet from the ground; the canes should be cut at about 3½ feet from the ground. Of course, the method of training has nothing at all to do with the bushes not bearing. If the young wood is strong and well ripened, and the varieties good, they must bear fruit. The Raspberry is also fond of a good supply of water at the roots. Any time in fine weather after this Currant and Gooseberry bushes may be planted out. They will get established before the winter season sets in, and will start into more vigorous growth next season.

### VINERIES.

The early houses are being prepared for forcing in the way that was recommended a few weeks ago. If we could, in addition to other washings and cleanings, have the inside woodwork painted, say every second year, it would be an excellent deterrent to many insect pests. Besides red spider, ordinary house spiders lodge in the crevices of the walls and woodwork, and as soon as the berries are formed the smaller spiders get into the centre of the bunches, and by-and-by they work their webs round the outer sides of the berries, very much injuring the bloom. In late houses where the Grapes are quite ripe much care is necessary to prevent decay in the fruit. Decaying leaves must be removed at frequent intervals, as it is when the leaves are decaying in the house that there is most danger from mould on the berries, causing decay. If the fruit is not quite ripe no time must be lost in keeping up the proper degree of heat, say from 60° to 65° in the Muscat house, and 5° less in the Black Hamburgh house. Lady Downe's and Alicante require as much heat as Muscats to finish them off well.

### PINE HOUSES.

Where fruit is now ripening attention must be given to ventilating the house as much as possible, but the temperature must be kept sufficiently high to bring up the flavour in the fruit—65° at night, rising to 75° or 80° by day with sun heat. We have been cutting Charlotte Rothschild and Smooth-leaved Cayenne, and a variety introduced from the mountainous districts of Columbia named Mordilona. It is said to ripen in a lower temperature than other Pines at present in cultivation in our English gardens, but we have tried it with the other sorts only. The leaves are much like those of the Smooth-leaved Cayenne, and the fruit has the appearance of that variety, but it is not so symmetrically formed. The fruit is very juicy, and will be a good winter variety. It is not necessary to say that the atmosphere should not be very moist, although it will be necessary to damp the paths and walls in bright weather twice daily, and once in dull weather. Succession houses for the present must be kept moderately cool at night. The Pines that we intend to start early in January are now kept dry at the roots with a bottom heat not exceeding 85°, and the temperature of the house about 55°.

### PLANT STOVE AND ORCHID HOUSES.

This is a very dull time for flowers in this department, but we are never altogether without them. The *Stephanotis floribunda* has flowered profusely, and its pure white delicately-scented waxy-looking flowers are always welcome. Very useful, too, is the *Urceolina aurea*, a Peruvian bulbous plant introduced by the Messrs. Veitch of Chelsea some years ago. Its yellow-greenish-tipped pendulous flowers are distinct and pretty. We grow it with *Amaryllis*, and the same treatment suits it. The *Amaryllises* are now at rest in a cool house. The soil has been allowed to become quite dry, and no water will be given to the roots until it is time to start them into growth. This should be done at different times, so as to obtain a succession of flowers. Ours are started with a little bottom heat and a temperature of 50° to begin with, increasing it to 55°, which is high enough in the winter season; but if it is necessary to raise the temperature to 60°, or even 65° to suit other plants, this will not be hurtful to the *Amaryllises* if bottom heat is supplied at the same time. When the bulbs are started in a high temperature without bottom heat, this forces the flower stalk up prematurely, the result being that the flowers are produced without the leaves, which is not desirable.

Some of the Orchids are now in flower, and most welcome they are at this season. *Lælia autumnalis* is in full beauty; the flowers are very handsome, but subject to disfavour on account of their powerful odour, which is disagreeable to most persons. Certain *Masdevallias*, such as *M. Veitchii* and *M. Harryana*, have thrown up autumn flowers. We never had the last-named species do so in the autumn before this year. The autumn-flowering variety of *Dendrobium formosum giganteum* is also showing fine flowers, and they last in good order for nearly two months at this season. The different varieties and species of winter-flowering *Calanthes* are now throwing-up their flower spikes. These plants are easily grown, and well worth all the attention required to keep them in good condition. The most useful sized pots are those about 5 or 6 inches in diameter. About three

bulbs are potted in each in good turfy loam with a little stable manure added to it. Small bulbs will produce one spike, and those of a larger size two spikes of flowers. *C. Veitchii* is the most noble of all this section. The bulbs in strong plants are sometimes over a foot long, and throw up spikes from 4 to 6 feet in length. In striking contrast to it are the different forms of the *C. vestita* section, with pure white flowers; and others with white flowers marked with red or yellow. They will thrive well in any plant stove with a temperature of from 60° to 65°. The leaves are infested with brown scale sometimes, but this is easily removed with a sponge and soapy water. As there is much danger from damp to be feared at this season, great care is necessary in watering Orchids; only give water when necessary, and avoid as much as possible spilling it on the leaves or pseudobulbs. All the shadings have been removed from plant houses, and also from the Orchids, except those from cool parts, such as *Odontoglossum crispum*, *O. triumphans*, *O. odoratum*, &c. We still shade these from bright sun, and do not stint them for water at the roots. The surface of the compost in the pots is usually covered with live sphagnum, and when this is kept in a healthy free-growing state it is not likely that the Orchids suffer from want of water. Where insect pests abound, and as work is not pressing, now is a good time to adopt means to extirpate them; still, the most effectual way to destroy mealy bug is to use a soft sponge and soapy water, and patiently wash each leaf and branch by hand. It is also well to destroy green fly by fumigating; there is not so much danger of injuring the young growths at this season as there is in summer.

#### FLOWER GARDEN.

Cold nights and muggy damp weather warn us that it is time to see that all bedding plants intended to be potted should be seen to forthwith. The Tricolor Pelargoniums have been already done. If they are not fairly established before the cold weather sets in many of the plants damp off through the winter. It is best to pot the plants in comparatively small pots, and remove all the oldest leaves before doing so. It is also a mistake to cut back any of the growths, as decay sets in at the cut part and spreads downwards. As soon as the beds are cleared of their summer occupants no time should be lost in planting the early spring-flowering Tulips, Hyacinths, &c. The herbaceous border requires to be looked over—all decaying stems removed, and the more free-growing subjects must be cut back where they are intruding on their more delicate and weakly neighbours.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

William Paul & Son, Waltham Cross, Herts.—*Catalogue of Roses*.  
Ewing & Co., Eaton, near Norwich.—*Catalogue of Roses*.  
Godwin & Son, Nursery, Ashbourne.—*Catalogue of Roses, Fruit Trees, &c.*  
George Yates, Underbank and Royal Oak Mills, Stockport.—*Illustrated Catalogue of Flower Roots*.  
Little & Ballantyne, Carlisle.—*Catalogue of Roses, Rhododendrons, Herbaceous Plants, &c.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

HULL. October 10th, 11th, and 12th. Mr. J. Chappell, 96, Prospect Street, Sec.  
JERSEY (ST. HELIER'S) (Fruit), October 11th. (Chrysanthemums), November 8th. Col. H. Howell, Hon. Sec.  
NORTHAMPTON (Chrysanthemums), November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.  
LOUGHBOROUGH (Chrysanthemums and Fruit), November 21st. Mr. John West, Chapman Street, Loughborough, Sec.  
MARGATE. August 29th, 1877. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

HOUSEMAID'S BARROW.—Under the above name a correspondent procured what he terms "a valuable garden liquid-manure distributor with one wheel, the same as a common barrow." He obtained it through an advertisement in our columns; he desires to know if he can obtain a similar article.

ROSES IN POTS (*E. L. W.*).—If you refer to our number published on August 31st of this year (No. 805), you will there find full directions for their culture.

SOIL FOR RADISHES (*Inquirer*).—Your soil is too rich, as the Radishes only produce tops. The red and the white Turnip-rooted varieties are to be sown now. There is no mode of driving away rats except by ferreting them.

FRUIT CULTURE (*An Old Soldier*).—Our "Fruit Culture for the Many," price 4d., free by post 5d.

TITLE TO GRAPES (*J. H. S.*).—You would probably be considered only a lodger, and that the Grapes on the wall are the landlord's. You had better agree to divide the crop.

NAME OF TREE (*James Long*).—It is impossible to be certain from such a specimen, but we think it is the common Alder, *Alnus glutinosa*.

NAME OF LILY (*C. R.*).—It is *Lilium tigrinum*, the Tiger-spotted Chinese Lily. It was introduced during 1804 by Mr. W. Ker, and cultivated in Kew Gardens. Kämpfer says that the Japanese eat the bulbs.

POTATO HAULM MANTRE (*J. H.*).—You are quite wrong in thinking it objectionable because it is poisonous. It decays in the soil, and its elements only after that decomposition are absorbed by the roots of the crop. Drift sand is as serviceable as silver sand if all earthy particles are washed-out from it.

SCHOOLMASTER POTATO.—"H. G. B." wishes to know where this can be purchased.

FUCHSIA AND FUNGUS (*T. E.*).—The Fuchsia is a morphological sport, and the bit of fungus no one could identify.

WALNUT-LEAVED KIDNEY POTATO (*I. W. A., Reader*).—It is not the same variety as the Ash-leaved. The leaves are of a different shape, size, and colour, the stems more dwarf, and the tubers smaller. Miniature Hyacinths we believe are only small specimens of the common Hyacinth.

GREASY COAT APPLE.—"N. H. P." suggests that this may be the "Greasy Pippin" mentioned by Downing in his "Fruits and Fruit Trees of America."

CHARCOAL FOR VINE BORDERS (*W. Kinnear*).—The best way is to mix it with the compost when the borders are prepared. Two bushels to a cartload of soil is a good proportion. If your borders are made and you wish to apply it, you can do so by spreading a bushel to each 9 square yards of surface and digging it in. It is best in lumps from the size of a walnut to a man's fist.

FUCHSIA LEAVES EATEN (*An Old Subscriber*).—The leaves have been eaten by some weevil or caterpillar. Probably you would find them at work were the plants closely examined, particularly if the former—i.e., weevils, be the cause, by examination of the plants at night. Were the plants syringed with a solution of soft soap it would make the shoots and leaves distasteful to the insects.

CLIMBERS FOR CONSERVATORY (*B.*).—You have all the fragrant climbers. Either you will have to have duplicates, in which case there is none finer or sweeter than *Mandevilla saxeolens*, but you appear to be without such fine subjects as *Lapageria rosea*, *L. alba*, *Tacsonia Van-Volxemi*, *Habrothamnus fascicularis*, *H. aurantiacus*, and *Luculia gratissima*. The two latter are sweet.

CUTTING-DOWN OLD VINES (*R. G. M.*).—In cutting-down near the ground the object is to secure young rods in place of the old, as that tends in a higher degree to facilitate the flow of the sap than through old worn-out wood. We have tried both—i.e., cutting to within a few inches of the ground and to the bottom of the rafters, and had good results in both cases, but the former is much the better of the two. By all means retain the young shoot, and cut the old cane or rod away just above the young shoot.

GERANIUMS LEGGY (*Amateur*).—The soil probably is too rich and loose. We should firm the soil so as to induce slow growth, or plunge the plants in the pots so as to cover the rim about an inch deep. The cause usually of Tricolor Geraniums withering or browning at the edge is mostly from excessive moisture over the leaves, especially after a period of dryness.

SAWDUST MIXED WITH HORSE DROPPINGS FOR MUSHROOMS (*T. H.*).—We have used the droppings from a loose box bedded with sawdust for forming Mushroom beds, and never had a more abundant crop nor longer continuance of fleshy Mushrooms. We only wish we had some at command. No fungus of a deleterious kind accompanied the Mushrooms.

LEAVING EDGINGS OF GOLDEN FEATHER PYRETHRUM (*An Amateur*).—We presume the plants are very dwarf and compact, in which case and being plants from seeds recently they will answer admirably, being very effective in spring. A little fresh soil placed around the plants up to the stem will do good.

AMERICAN BLACKBERRIES (*Leeds*).—We know of no nurserymen in England who sell these varieties.

LIME FOR SLUGS (*Novice*).—Quicklime is better than gaslime for destroying slugs. Dust the surface with the lime until it is white, and repeat the application if needed. It is applied most effectually during the evening when the slugs are moving about.

SELECT DAHLIAS (*S. B. G.*).—*Acme of Perfection*, Lord Derby, Alexandra, Scarlet Gem, Thomas White, Sir G. Smythe, John Standish, Paisley Paul, Criterion, Mrs. Stancomb, Lord Palmerston, Charles Backhouse, Ada Tuffin, Countess of Pembroke, Mrs. Dorling, James Hunter, Her Majesty, Lady Jane Ellis, Lady Derby, Andrew Dodds, Julia Davis, Miss Henshaw, Lothair, and James Wilder. Those are show varieties, which you must not exhibit with fancies, a dozen of which are—Mrs. Saunders, Rose Flake, Grand Duchess, Flossey Williams, Marquis of Lorne, Flora Wyatt, Harlequin, Gem, Mrs. Goodwin, Rev. J. B. Camm, Chang, and Lord Dalkeith. The others in your list we do not know.

TEA-SCENTED ROSES (*E. S.*).—*Cloth of Gold*, a Noisette, which you prefer to *Maréchal Niel*, would succeed admirably against the wall. All those you name would succeed well, but all Tea-scented Roses require protection in winter except in warm situations.

WORKING SEEDLING BRIARS (*Idem*).—You may pot the plants and keep them plunged in coal ashes about an inch over the rims of the pots, taking care to keep them well supplied with water. The only fear is too weak growth, and rooting beyond the pots. They may be turned out of the pots after the buds have taken.

RAISING PINUS AUSTRIACA FROM SEED (*Idem*).—Sow the seeds in March in light sandy soil in an open situation, covering them about three-quarters of an inch deep. The seedlings should be transplanted in the autumn in rows a foot apart, and 3 inches distant in the rows.

INSECTS LIKE WASPS BURROWING IN A DEAD TREE (*W. H. Cooke*).—The insect you have observed is not one of the social wasps (*Vespa vulgaris*), but a solitary species, *Crabro leucostomus*, which has selected flies to deposit in its cells for the support of its young when hatched.—W.

INSECTS ON PRIMULA LEAF (*L. M.*).—The very minute insect and the leaf sent are in so shrivelled a condition that it is impossible to determine the name of the former. Its relics look like the very small caterpillar of a moth.—W.

**NAMES OF FRUITS (A. H. Pearson).**—1, Alexandrina Bivort. The Apple not known. (K. K.).—1, Nonesuch; 2, Early Nonpareil; 4, Nelson's Glory; 5, Not Tower of Giammis; 7, Fondante d'Automne. (R. P. Hawksley).—Grayson. (R. C. C.).—4, 5, and 10, Court-Pendu-Flat; 7, Caral's Seedling; 9, Coe's Golden Drop. (J. E. Ransom).—1, Trumpington; 2, Borsdorfer. (D. Deal).—Not known. (R. C. C.).—1, Emperor Alexander; 2, Manks Codlin; 3, Too much decayed before it could be examined. (E. M. P.).—Tom Patt is the name of a popular Apple in Somersetshire, but we do not think that this is that variety. It is like the Tom Patt of Herefordshire. (Connaught Subscriber).—1, Belgian Purple; 2, Was rotten before it could be examined. (Knutsford).—1, English Codlin; 2, Mère de Ménage; 3, Rotter. (F. M.).—The red-striped Apple not known, the other is Birmingham Stone Pippin. (X. Y. Z.).—Not known. (W. O. B.).—Not known. (E.).—1, Winter Peach; 2, Lewis' Incomparable; 3, Summer Stibbert; 4, Evidently a local variety; 5, Margil. Pear—2, Swan's Egg. (Bob).—The Grapes were rotten before they could be examined. (L. D. W.).—Blue Imperatrice. (P. C.).—Not known. (Connaught Subscriber).—1, Barbe Nellis; 2, Decayed before it could be examined. (Stuart & Mein).—Not known. (H. W. W.).—Morning Pippin; 2, Pearson's Plate. (S. W.).—1, Hoary Morning; 2, Sweeny Nonpareil; 3, Beauty of Kent; 4, Claygate Pearmain. (Thomas Laaton).—We cannot identify the Apple sent. (G. B. R.).—The Apple is the Yellow Siberian Crab. The Pear not known. (Ewing & Co.).—The Plum is Black Bullace; Claygate Pearmain is Scarlet Nonpareil. We do not know the other. (North Clays).—A good early Apple. (J. A. P.).—2, Beurre d'Amande; 6, Beurre d'Or; 8, Doyenné Gris; 9, Christie's Pippin; 10, Lord Suffield; 12, Yorkshire Greening.

**NAMES OF PLANTS (W. Musgrave).**—It is *Physalis alkekengi*, Winter Cherry. It is hardy, may be obtained of any seedsmen or florist, and treated like any other border plant. (Fens).—1, *Datura* (*Brugmansia*) *saucina*; 2, *Pellaea rotundifolia*; 3, *Achimenes* sp.; 4, We cannot name florists' varieties of *Begonia*. (J. H.).—A young form of the Bracken (*Pteris aquilina*). (H. S.).—1, *Campiosorus rhizophyllus*; 2, *Pellaea atropurpurea*. (H. R.).—A *Solidago*, probably *S. lanceolata*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### OUR DUTY TO OUR FOUR-FOOTED AND FEATHERED NEIGHBOURS.—No. 1.

"We defy augury; there is a special providence  
In the fall of a sparrow."—*Hamlet*.

It is my purpose in this and future papers to inquire, without prejudice, and keeping mere sentiment at a distance, as well as the thought of sport where sport is only selfish and useless cruelty—to inquire, I say, what is our duty to our four-footed and feathered neighbours.

We speak of "wheels being within wheels," noting the reasons that lie inside of reasons, sometimes pretended reasons first and given; real reasons within and concealed. But if there are wheels within wheels, what a number of worlds are within this world! There is the world of being, thought, act, and inclination, which you and I, grown-up reader, are living in, each in our own world. Go up into a nursery; each little one there has equally his own world in which he or she is living, in which a toy, or a sweetmeat, or that awful being "nurse," have force and power. Descend and go into the kitchen; each servant is living in his or her world, each human being in a world, much of which no one else is cognisant, for

"Not even the tenderest heart, and next our own,  
Knows half the reasons why we smile or sigh."

But around us there are other living beings—beasts and birds, each with its own feelings, following its own pursuits, its own plans, absorbed in providing for its own life, having its own loves, and hates, and fears. What cares the rabbit for man's feelings or sufferings? It is absorbed in its own world, and full of fear oft for its own life; or why does it stop and lower, and then move upward and around its beautiful trumpet-like ears, formed specially to catch the slightest sound? Caesar may dream that the world is made for him, but I think that pert cock sparrow twittering on the end of a house roof may just as likely think that this world was made for him. "What's Hecuba to him, or he to Hecuba?" but his little brown mate sitting on her eggs close by is much to him—part, great part, of his little world.

Next, man is the greatest power in the world, and since he made for himself by his skill firearms he is all-powerful over the world of beast and bird. They know this, and they dread his face, save in those islands where man was a stranger. Thus the dodo of the Mauritius allowed himself to be caught by man, and was soon exterminated by man, thus paying the penalty of his confidence. Poor trusting dodo! many a woman has trusted man just the same, and to her sorrow and to her destruction not seldom.

Man the master, the autocrat, of the world, and all other living beings in the world fearing him! This fear is beautifully dwelt on by Mr. Blackmore in a grand book of his, "Lorna Doone," a work in which the author has done as much for Exmoor as Charles Kingsley did for Bideford and its neighbourhood by his "Westward Ho!" The hero of the book, looking back upon an event in his childhood, thus writes:—"A long way down that limpid water, chilly and bright as an iceberg, went my little self that day on man's choice errand—destruction. All the young fish seemed to know that I was one who had taken

out God's certificate, and meant to have the value of it; every one of them was aware that we desolate more than replenish the earth. For a cow might come and look into the water and put her yellow lips down; a kingfisher, like a blue arrow, might shoot through the dark alleys over the channel, or sit on a dipping withy bough with his beak sunk into his breast feathers; even an otter might float down stream, likening himself to a log of wood, with his flat head flush with the water-top, and his oily eyes peering quietly; and yet no panic would seize other life as it does when a sample of man comes"—man the master and the destroyer.

Such is man's power. No emperor ever was so absolute over men's limbs and lives as is every man over the world of beast and bird around him, and no vassals or slaves ever fled from his pursuer as does every beast and bird. What, then, is our duty to our four-footed and feathered neighbours? The Maker equally of the poor brute and of ourselves has spoken on this subject. He said, "Thou shalt not muzzle the ox that treadeth out the corn," meaning that the poor labouring brute should be able to eat of the straw around him. Such the Great Father's kindness to the four-footed. But the bird has not been forgotten:—"If a bird's nest chance to be before thee in the way in any tree, or on the ground, whether there be young ones or eggs, and the dam sitting upon the young or upon the eggs, thou shalt not take the dam with the young, but thou shalt in anywise let the dam go and take the young to thee; that it may be well with thee, and that thou mayest prolong thy days." There is to be no extermination of birds, as they do good, not harm, if preserved in suitable numbers. Then there is the couplet of J. Montgomery founded on a well-known verse:—

"MAN: The gun is levelled, quit that wall.

"SPARROW: Without the will of Heaven I may not fall."

He who says "He feeds the ravens," and "whose are the cattle on a thousand hills," and He equally "preserveth man and beast." It is not, then, for us to be murderers, to take life for no cause or a bad cause. We have our duty to fulfil to the world of beast and bird. There is the sentimental view as expressed in the lines—

"No flocks that range the valley free,  
To slaughter I condemn;  
Taught by that Power who pities me,  
I learn to pity them;  
But from the mountain's grassy side  
A guiltless feast I bring—  
A scrip with herb and fruits supplied,  
And water from the spring."

This is mere sentiment. A feast from fat oxen is as guiltless as of watercresses. The animals were given us for food; and not only us, but all the carnivora have teeth and stomachs on purpose for the mastication and digestion of animal food. We are to kill, but we ought to kill humanely.

In England during the past thousand years many animals and birds have been exterminated, and many more destroyed in too great numbers.

In regard to birds in England a thousand years since, specially in the fens of Cambridgeshire and Lincolnshire, I subjoin an eloquent allusion to their numbers from as good a naturalist as novelist—Charles Kingsley, who in his "Hereward the Wake," who lived in the time of William the Conqueror, thus writes in a description of a journey by water from Bourn to Crowland Abbey:—"And they rowed away for Crowland, by many a mere and many an eddy; through narrow reaches of clear brown glassy water; between the dark green alders; between the pale green reeds; where the coot clanked, and the bittern boomed, and the sedge bird, not content with its own sweet song, mocked the notes of all the birds around; and then out into the broad lagoons, where hung motionless, high overhead, hawk beyond hawk, buzzard beyond buzzard, kite beyond kite, as far as eye could see. Into the air, as they rowed on, whirled up great skeins of wild fowl innumerable, with a cry as of all the bells of Crowland, or all the hounds of the Bruneswold; while clear above all their noise sounded the wild whistle of the curlews and the trumpet note of the great white swan. Out of the reeds, like an arrow, shot the peregrine, singled one luckless mallard from the flock, caught him, struck him stone dead with one blow of his terrible heel, and swept with his prey into the reeds again."

Now, of all the birds mentioned in this beautiful piece of word painting how few remain, at least in the fens. No bittern now booms there, no buzzard and kite sail in the air, no curlews, no great white swans; and as to the peregrine, he has retired to the Highlands of Scotland, and from thence higher up to Iceland, from whence he flies for a meal back to Scotland.—WILTSHIRE RECTOR.

### MICHAELMAS TIDE.

THE brown and golden leaves are beginning to strew the runs which are shaded by limes and chestnuts. Feathers abound everywhere, and flit through the wire netting of the yards and come to a standstill in flower beds and garden paths. The



grass in the runs begins to look tufty and coarse. In fact everything begins to look untidy, and we are told that autumn has come.

With Michaelmas day we began a new list of poultry shows and commenced putting things in train for the great season of important exhibitions. Up to then we had only had chicken shows of moderate excellence; but in October and the following winter months well-got-up schedules arrive by nearly every post, and the full whirl of important exhibitions is upon us. Before this comes to pass, when we are now in Michaelmas tide, which is the turning point in this new quarter, let us take a brief retrospect of what we have seen at the summer shows.

First of all, taking all the chicken shows and chicken classes collectively, we think the average quality and number of birds has been very fair, and perhaps 1876 has so far been marked by a more even proportion of good specimens in all the varieties than is usually the case. We should think Cochins and Light Brahmas have on the whole made the best display, while Dark Brahmas have made the weakest. Considering the wholesale way in which they have been in the habit of being bred and exhibited, we almost are inclined to believe this fashionable breed is beginning to lose admirers and that its glory is departing. We fancy the older-established Cochins are once more regaining their position which the Dark Brahmas temporarily seemed to wrest from them. Most certainly there has not been that display of Dark Brahma chickens which we have seen in other years; and Bath, which in former Septembers has been so very conspicuous for its chickens of this breed, this year mustered but three cockerels, and those in no way up to the standard of former times. We fancy winning became too difficult, and was in the hands of so very few, that many fanciers turned their attention to other breeds which held out greater chances of prizes. Cochins, we believe, are as popular as ever they have been, but even with them trade is not very brisk; in fact, we heard one of our oldest breeders say but last week that he had never known such utter stagnation in the poultry world as regards sales. There have been some good Dorking chickens out, and the judges seem to fancy the Silver-Greys very much; for at Hereford, Weymouth, Aylesbury, and other shows we find this variety taking the cups before their coloured brethren. Hamburgh chickens in the north have been plentiful and good; the Blacks more especially have been wonderfully good. The French we have not seen in the numbers we have been in the habit of seeing at the chicken shows of past years, but the quality of those which we have seen has been quite up to a good average. In the Polands the year so far has been remarkable for the great excellency of the White-crested Blacks. We consider this one of the most lovely of all our breeds, and hope the chickens have not only appeared at the summer shows but will also appear equally strong at the winter exhibitions. In Leghorns the Club has been making a stir and furnishing prize money right and left. We hardly think so far the entries have been as numerous as they should have been, but we can quite imagine it is no easy work all at once to put a breed upon its own footing. There have been some good Spanish about, and a nice Malay or two. Silkies have been perhaps rather more numerous than usual, and we hope the extra classes they are now having will lead to still further cultivation of this most useful little breed. Among Bantams in the south the Game have been but poor, while Laced and Blacks have come to the front better. In Waterfowl, Ronen Ducks have been so far extremely good. Of Indians we have seen also some splendid pens for colour. Black Cochins have not come to the fore very much, and it seems difficult to get size with other good points. Thus much for the birds generally during these summer shows; now we look forward to large classes and good quality, and expect Oxford to produce many wonderfully good specimens hitherto unshown.

It has been remarkable this year how late the large yards have been, but we look forward to seeing now a good display from them. Another thing we have especially noticed this season is how in the early chickens one brood would consist of all pullets and another of all cockerels. This of course is a great drawback to early exhibition. Among the shows themselves we are sorry to find one or two have died. Of them we particularly regret Long Sutton. Middleton near Manchester has left its old date, and now comes under a new quarter of the exhibition year. We lament most especially the falling through of the Alexandra Palace meeting; and though certainly we have a very welcome new arrival in Ipswich, still we could not afford to lose the sister Palace's exhibition.

Of the exhibitors we note with much pleasure that many of our oldest fanciers have been winning well in the summer shows. Mr. Sedgwick we congratulate heartily on his wonderful Cochins victories. Mr. J. K. Fowler has been well in the lists, so has Mr. Beldon; and Messrs. Burnell and Cresswell not only have done brightly, but will, we think, from the rumours of the quality of their stock, even surpass other years' successes. Of new exhibitors we have not seen many, but we hope they will come. We cannot have too many; the more the merrier. And no one can have a better time of entering the poultry arena

than the present, for birds were never so moderate in price as they now seem to be. In case any amateurs are looking out for good openings where they may have a chance of soon winning prizes we would recommend them to turn their attention to Black Cochins and Cuckoo Dorkings among the large breeds, and to clean-legged White Bantams or to Sebrights among the smaller varieties.

In judges we have had no fresh blood, but we rejoice very greatly to hear one of our oldest fanciers of the utmost integrity has consented to judge the Cirencester poultry show. We do not know if we are at liberty to give his name, but when the poultry exhibitors hear it we think they will welcome him as cordially as we do.

Thus much for the summer times. The new quarter has begun, and in that quarter we hope to find new shows, new judges, new exhibitors, and new birds.—W.

## IPSWICH POULTRY SHOW.

UNDER extremely energetic management this good Exhibition was held last week. It was a wonderfully nice chicken Show, and the promoters deserved their success, for they worked with a will, and had much to contend against. The two Secretaries and Mr. Fred. Wiagg and Mr. Raynor worked like Trojans, and they won on all sides the good opinions of exhibitors, judges, reporters, and the public. The feeding was good, the pens were well arranged, the cards were put up speedily, the catalogues were ready. The arrangements, in fact, were admirable, and we hope we may find this Exhibition for many years to come a prosperous one. The birds were ranged in two quadrangles, one within the other. In the inner one were the Bantams and Pigeons, in the outer the rest of the poultry. Mr. John Martin awarded the prizes in the Dorkings, Spanish, Malays, and Hamburgs, Mr. Teebay in the Game, and the rest of the poultry awards were made by those two gentlemen conjointly, while Mr. E. Hutton judged the whole of the Pigeons. The awards were very well received, and appeared to have been most carefully made.

Cochins were not large but good classes. The first and second Buff pullets were good in colour but coarse in head and large in comb. The cockerels were good birds, one of them the bird claimed by the present owner at Oundle. The third contained a very young but nice pullet. Mr. Swindell sent a lovely pair of chickens, but they came too late for exhibition, or must have come in somewhere. In Partridges the pullets in the first and second pens were well marked and large. The cockerel in the first-prize pen is splendid in colour and shape, but his comb bears signs of some slight recent manipulation. The second cockerel we did not care for, and his legs were feathered in a very ugly way, still they easily won their places. In Whites the first cockerel was very white and very good generally, but still quite a chicken, and the pullet with him looked old enough to be his mother, but was we firmly believe a genuine chicken. The second cockerel was very smart to look at, but under-feathered on his legs. The third pullet was much hocked, but quite honestly shown. In Blacks the first-prize pen was very lustrous, well feathered, and large for their age. Second and third very good chickens of good colour and well shaped. In Dorkings the cup went to a fine pen of Coloured chickens, but they, too, looked very matured and old, but we were assured on good authority they were honestly birds of the year. Second went to smaller but as good birds for points and colour, while third was given to a pen of mere babies. We never saw so large a class filled with such well-grown birds, and yet with specimens so full of defects. One pen was spoilt by sooty feet, another by bad claws, and another by outside spurs. In Whites only one prize was awarded for the same reason, and these had white earlobes like a Hamburg's, but they were very smart and good in carriage, save for his spurs; however, Mr. Cresswell showed the best cockerel. Silver-Greys were moderate; the first-prize pen were well a-head; the second cockerel was very good. The Dark Brahma cockerels disappointed us very much. If the leviathan breeders of Ipswich have nothing better in reserve amateurs have a splendid chance this year of carrying off the blue ribbon at the great Show in November. The first-prize bird was well grown, fair in colour and leg-feathering, but large in comb and loose in wings; second larger in comb; third wry-beaked; No. 10 (Percival) had some good points, and 11 (Lady Gwydyr) was a neat bird, and perhaps should have been placed higher considering the defects of the winners. We could have found a bird in the Selling class equal to any of the eleven competitors. Pullets were much better than the cockerels; first (Percival) we thought an improvement upon the owner's very successful pullet of last year, being larger, superior in leg-feathering, and in colour stronger, but perhaps not so perfect throughout; second a well-marked bird; third better in some points, but rather hocked. Pen 20 (Lingwood) splendid in colour and markings, which we thought entitled her to some notice. Light cockerels superior to the Darks, but not great. The competition for the first and second prizes was very close;

the second was not so juvenile in appearance as the winners, which perhaps turned the scales; third a neat bird. Pullets.—To the astonishment of all Light Brahma breeders Mr. Dean was first, second, and third. We can only say the birds deserved their positions. *Bantams*, Game, Reds a capital class (nineteen entries); first and second Black Reds, first a very stylish cockerel, hen out of condition; third very fair Browns. Any variety, first, second, and third Piles; first a beautiful-coloured cockerel in splendid trim. Pen 423 (Southwood) was out of condition—his sickle feathers were not fully grown. We thought him the most game-looking bird in the class. Blacks.—A very neat pen were first, rest fair. Sebrights a good class. In the class for single cocks a good Black Red was first that deserved mention. *Spanish* were only a middling lot, and need no comments. The second-prize pullet was perhaps as good as any one bird. In *Game* Mr. Matthews did all he could do. His birds were shown bright in plumage and in robust health. In Black Red pullets the second-prize pen was run up to £10 10s. at the sale, and bought-in we believe at that price. In the Variety cockerel class an undubbed Duckwing was first, but his wings were badly carried, as too were those of the second-prize Pile, which was otherwise a good bird of beautiful colour. The first Duckwing pullet was a good bird all round, and well in first. In *Malays* Mr. Hinton's pens were empty. The first cockerel is a smart bird, tall, and deep in colour; the second, however, was even taller, and more like the Malay shape. The pullets were all very good. In *Leghorns* a nice pen of Whites won first. They were shown in good plumage, and seem to be in no way worse for their journey across the ocean. The cock has a large but very firm and good comb. The third went to Browns, a pretty pen, but the cock's tail was rather too high we thought. In *Orpingtons* the collection was very good, the cup pen large and good in heads; the third-prize pullet too was very black and large in crest. The second in this class was a pen of nice *La Fleche* chickens. In *Houdans* we saw nothing up to former years' birds. We liked the first cockerel pretty well and the second pullet. *Polands* mustered well. In Spangled a good pen of Golds were first, while Silvers took second. The latter pen contained a very nice pullet. Third again to good Golds. In Blacks the first were large and well matured, in fact the cockerel looked quite old. He had a loose crest, but it was white as snow. The second pen contained a wonderfully nice pullet, with a beautiful crest. Her mate was also extremely good. The third were very young but most promising. In *Hamburgs* the quality was capital, and most of the best yards had a try for the good prizes. The second Gold-pencilled cockerel had a lovely tail, but the pullet with him was not up to him, and here the markings of the first-prize bird pulled the pen in first. In Silver-pencils Mr. Kelleway had two good cockerels, but very poor pullets with them. The first pullet was very good, and beautifully pencilled upon the breast and tail. In Golden-spangles the first-prize pen also took the cup; they were a good pair, the pullet perhaps the best. The third pullet we liked very much, but she had an older appearance than the others. In Silver-spangles the first cockerel was very perfect in tail and markings. The third pullet we liked very much indeed also. In Blacks the first were the smartest pair as a pair; but the third cockerel as one bird was our fancy, but his companion was a mere baby. In the Variety class a very good pen of Silky chickens made their *début* in the show pen and won the cup; but we were sorry to see the cockerel losing his leg feathers on the third day, from the incarceration we conclude. The second prize also went to good Silky chickens, the cockerel especially fine in crest. The third went to small and very yellow Sultan chickens. Mr. Bigg sent a nice pair of Sultans, but they had ruined each other's plumage by fighting in the basket; 295 contained a pen of Muffed Silkies, and very ugly they were in our eyes. The Sale classes were large, but even good birds failed to sell. The *Waterfowl* were very good, Rouen especially. In Blacks the competition was very keen, and we think it was a toss-up which of the three prize pens were most deserving of first. In the variety Duck class Mr. Leno had a lovely pair of Brazilian Teal. They are very pretty, and have a spot like a Peacock's "eye" upon them, but they were in a bad light, and failed to catch the Judge's eye. The *Geese* and *Turkeys* were large and very good.—W.

## PIGEONS.

Next to the arrangement of the birds, which was excellent, the attendance to them was good. The food was mixed and very good.

First on the list were Carrier cocks, and these were a capital lot. The first-and-cup for the Carrier section a well-known Dun; second and third Reds. Hens, first and second Duns, and third Black; highly commended a Black, with very good eye-wattle, but poor beak-wattle. Many of the Pouters were in very bad feather, and not at all fit for the show pen. In cocks Blue or Black, first was a Blue in grand order, second Black, a better bird no doubt if in show trim; third also Blue. Hens, first a smart Blue; second and third also Blues. Mr. Thornton's birds were unfortunately too late for competition. In the next

class first was the best blown bird in the Show, but moulting and bare on the shins to some extent; second and third Whites, which were in rather bad feather. Mr. Byford's birds throughout the Show were very late in feather. In hens was the gem of the Show in the shape of a White, which was as perfect as could be, and to which the cup was awarded. Dragoons Blue or Silver were a fair class, the majority being birds of the medium-wattled kind, which we hold are the correct thing; first was a Silver with black bars, rather large, but otherwise good; second and third Blues, the third the most perfect-headed bird in the Show, but rather light on thighs. Any other colour were first-and-cup a Yellow, not of the deepest colour, but most perfect in head; second a Grizzle, rather inclining to the London style; and third a fine-coloured Yellow, but too red on the cere. Antwerps were a good lot, and mostly quite up to the demands of the schedule—viz., Short-faces, which is a case of rare occurrence; first was a wonderful Red Chequer; second also of that colour, but not well filled-up over the beak; and third a good Silver Dun. Almonds were a nice lot, and the cup for the next section was awarded to a cock; and a capital hen was placed second. Any other colour was made up of Kites, Whole-feather, and Agates, head properties mostly ruling the awards. Barbs were not numerous, but some were very good. In cocks first was a wonderfully square-headed Black, but out of feather; and in hens Mr. Yardley won with his well-known champion. Fantails were a good lot; the second-prize winner a nice Blue, and the rest all Whites. Jacobins were two good classes, the gem of the collection being a White in the Variety class; but some good Blacks were too late for competition. Turbits a grand class, and to one who had made these almost the study of a lifetime were quite a treat, for although many birds were foul-thighed, and some not at all, as they should be in spike and mane, yet there were some as near perfect as possible; first and second Black, and third Yellow. Magpies very nice; first Red, a little large, and second a pretty little Black, not quite ready for high competition. In the Variety class Mr. Fulton won the lot, as also the cup for the section, with a good White African Owl, Black Trumpeter, and Blue English Owl. The Sale classes were large, but with the exception of the winners there were not many good lots. Mr. Fulton won the point cup.

POULTRY.—*BRAMMAS*.—*Dark*.—Cockerels.—1, H. Lingwood. 2, R. P. Percival. 3, C. Holt. *White*.—Lady Gwydyr. Pullets.—1 and Cup, R. F. Percival. 2, Newham & Manby. 3, G. S. Pearson. *Light*.—Cockerels.—Cup and 1, R. P. Percival. 2, A. Dean. 3, G. C. B. Breeze. Pullets.—1, 2, and 3, T. A. Dean. *COCHINS*.—*Cinnamon and Buff*.—Cockerels.—1 and 2, Mrs. A. Tindall. 3, A. Darby. *Partridge*.—Cockerels.—1, Cup, and 2, Mrs. A. Tindall. 3, A. Beaumont. *White*.—Cockerels.—1, Mrs. A. Tindall. 2, Rev. R. S. Woodgate. *Any other variety*.—Cockerels.—1, Lady Gwydyr. 2 and 3, A. Darby. *Storer*. *DORRINGS*.—*Coloured*.—Cockerels.—1 and Cup, H. Lingwood. 2, T. C. Burnell. 3, H. Wanne. *Silver Grey*.—Cockerels.—1 and 2, R. C. Burnell. *Any other variety*.—Cockerels.—1, R. A. Boissier. *SPANGLED*.—Cockerels.—1, J. Thresh. 2, H. Beldon. 3, R. Newbitt. *GAMPS*.—*Black-breasted Red*.—Cockerel.—1, S. Matthews. 2, G. H. Fitz-Herbert. 3, J. Cock. Pullet.—1, S. Matthews. 2, Hon. and Rev. F. Dutton. 3, G. H. Fitz-Herbert. *Brown-breasted Red*.—Cockerel.—1, S. Matthews. 2, J. Cock. 3, W. Perrin. Pullet.—1, Cup, and 2, S. Matthews. 3, W. Clough. *Any other variety*.—Cockerel.—1 and Cup, S. Matthews. 2, H. Beldon. 3, E. Winwood. Pullet.—1, S. Matthews. 2, E. Winwood. 3, G. H. Fitz-Herbert. *Malays*.—Cockerel.—1 and Cup, T. Lecher. 2, H. A. Fairlie. 3, R. Hawkins. Pullet.—1, T. Lecher. 2 and 3, A. Smith. *HAMBURGERS*.—*Gold-pencilled*.—Cockerels.—1, J. Smith. 2, J. Long. 3, Duke of Sutherland. *Silver-pencilled*.—Cockerels.—1, Duke of Sutherland. 2, J. Long. 3, H. Beldon. *Gold-spangled*.—Cockerels.—Cup and 1, H. Pickles. 2, T. E. Jones. 3, H. Beldon. *Silver-spangled*.—Cockerels.—1, H. Beldon. 2, Duke of Sutherland. 3, J. Gee. *Black*.—Cockerels.—1, C. Sidgwick. 2, H. Pickles. 3, J. Long. *POLANDS*.—*Gold and Silver-spangled*.—Cockerels.—1, P. Unsworth. 2, G. C. Ainslie. 3, W. H. Silver. *Any other variety*.—Cockerels.—1, A. Smith. J. Fearley. 2, T. Norwood. 3, P. Unsworth. *HOUDANS*.—Cockerels.—1, J. N. Flemming. 2, S. W. Thomas. 3, Miss A. Sharpe. *FRENCH FOWLS*.—*LEIGHORNS*.—1 and Cup, W. F. Upsher. 2, H. Stephens. 3, Rev. C. C. Ewbank. *LEIGHORNS*.—Cockerels.—Cup, 1, and 2, R. R. Fowler. 3, A. Kitchen. *ANY OTHER VARIETY*.—Cockerels.—Cup and 1, Rev. R. S. S. Woodgate. 2, O. E. Cresswell. 3, W. H. Copplestone. *SELLING CLASS*.—*Any variety except Bantams*.—Cockerel.—1, J. Swinson. 2, Lady Gwydyr. 3, S. Levett. Pullets.—1, S. Levett. 2, M. Gilbert. 3, C. Carr. *GAME BANTAMS*.—*Black-breasted and other Reds*.—Cockerels.—1 and Cup, G. Hall. 2 and 3, J. N. Cockshaw. *Any other variety*.—Cockerels.—1, G. H. Fitz-Herbert. 2, F. Steel. 3, J. N. Cockshaw. *BANTAMS*.—*Black or White*.—Clean-legged—Cockerels.—1, Cup, and 2, C. J. Illingworth. 3, F. C. Davis. *Gold and Silver Sebrights*.—Cockerels.—1, Cup, and 2, M. Leno. 3, J. Walker. *Any other variety*.—Cockerels.—1, Mrs. Griggs. 2, Rev. R. S. S. Woodgate. 3, Mrs. J. Longe. *Game*.—Cockerel.—1 and Cup, G. Hall. 2, F. Steel. 3, J. N. Cockshaw. *Selling Class*.—Cockerels.—1, W. Holmes. 2, Miss Winwood. 3, E. Holland. *DUCKS*.—*White Aylesbury*.—1 and Cup, T. Sear. 2, Dr. E. Snell. 3, J. K. Fowler. *Rouen*.—1, F. G. S. Rawson. 2, J. Gee. 3, P. Unsworth. *Black East Indian*.—1 and Cup, J. J. Malden. 2, S. Burn. 3, S. Sainsbury. *Any other variety*.—1, Cup, and 2, J. Walker. 3 and *vhc*, M. Leno. *SELLING CLASS*.—1, Mrs. C. Berners. 2, T. Sear. 3, Miss E. A. Eeles. *GEES*.—1, Dr. E. Snell. 2, J. K. Fowler. 3, J. Everett. *vhc*, W. T. Brackenbury. *TURKEYS*.—1 and 2, H. J. Gannell. 3, R. Everett. *PIGEONS*.—*CARRIERS*.—*Black or Dun*.—Cock.—1, Cup, 2, and 3, R. Fulton. *vhc*, R. Fulton. *Hen*.—1, 2, and 3, R. Fulton. *vhc*, R. Cant. *Any other colour*.—Cock.—1, 2, and *vhc*, R. Fulton. 2, W. G. Hammock. *Hen*.—1, R. Fulton. 2 and 3, W. G. Hammock. *POUTERS*.—*Black or Blue*.—Cock.—1, 2, and 3, R. Fulton. *vhc*, A. P. Byford. *Hen*.—1, 2, and 3, R. Fulton. *Any other colour*.—Cock.—1, T. Herrieff. 2 and *vhc*, R. Fulton. 3, A. P. Byford. *Hen*.—1, Cup, 2, and 3, R. Fulton. *vhc*, A. P. Byford. *DRAGONS*.—*Blue or Silver*.—Cock or *Hen*.—1, 2, and *vhc*, R. Fulton. 3, Hon. W. Sugden. *Any other colour*.—Cock or *Hen*.—1 and Cup, R. Woods. 2 and 3, R. Fulton. *vhc*, J. Chandler. *ANTWERPS* (Special flying class).—*Short-faced*.—Cock or *Hen*.—1, T. Kendrick. 2, H. Yardley. 3, C. F. Copeman. *Homing*.—Cock or *Hen*.—1, C. Chandler. 2, E. L. Oxborough. 3, W. Rayner. *TUMBLERS*.—*Almond*.—Cock or *Hen*.—1, Cup, 3, and *vhc*, R. Fulton. 2, H. Yardley. *Any other variety*.—Cock or *Hen*.—1, 2, and 3, R. Fulton. *vhc*, R. Cant. *BARBS*.—Cock.—1, 2, and 3, R. Fulton. *Hen*.—1, H. Yardley. 2, and 3, R. Fulton. *FANTAILS*.—Cock or *Hen*.—1 and 3, T. F. Lovidge. 2, W. McDaniel. *JACOBS*.—*Red or Yellow*.—Cock or *Hen*.—1, 2, and 3, R. Fulton. *vhc*, G. Hardy. *Any other colour*.—Cock or *Hen*.—1, T. W. Swallow. 2 and 3, R. Fulton. *TURBITS*.—Cock or *Hen*.—1, O. E. Cresswell. 2, R. Woods. 3, R. Fulton. *vhc*, G. Hardy. O. E. Cresswell. R. Woods. *MAGPIES*.—Cock or *Hen*.—1, G. H. Gregory. 2, H. W. Webb. 3, H. Jacob. *ANY OTHER*

VARIETY.—*Cock or Hen*.—Cup, 2, 3, and *vhc*. R. Fulton. SPECIAL SELLING CLASSES.—*Price not to exceed £3*.—*Cock or Hen*.—1, H. W. Hale. 2, R. Woods. 3, T. Roper. *vhc*. G. G. Sykes. A. P. Byford. *Price not to exceed £1 10s*.—*Cock or Hen*.—1, A. & W. H. Silvester. 2, A. P. Byford. 3, Brothers Popplewell. *vhc*. H. W. Webb. A. P. Byford. *Price not to exceed £3*.—*Cock or Hen*.—1, C. Bevan. 2, G. Shepherd. 3, T. E. Hainsworth.

### FARNWORTH POULTRY SHOW.

THE twelfth annual Show was held at Farnworth on the 21st ult. In poultry there were eight silver cups, and £2, £1, and 10s. in each class, and, as a matter of course, this was well responded to, there being 209 pens, and many excellent birds were shown. *Dorkings* six pens and very good. In *Brahma* chickens the winners were all of the Dark variety, the cup going to old birds. *Cochins* had four classes with only twenty entries, but the birds were good. *Game* four classes with twenty-nine entries. The Black Reds were uncommonly good, and the first in grand order. Brown Reds first, a very raw but promising cockerel. Both first and second pullets were of rare quality. In the Variety class first and cup for best pen went to a stylish pair of Piles, birds of this year. *Spanish* were young, and quite the best class we have seen this season. *Hamburgs* were well represented, the cup for this section going to Golden-pencilled chickens. Silver-pencils and spangles were very good and in nice order, but the same cannot be said of the Golden-spangles, the first and second of which, though best in points, were decidedly out of order, and it is a pity they should continue to be shown in such a state, as it is spoiling valuable birds. *Bantams* might be given more classes as paying their way by far the best of all, there being thirty-five in four classes. *Rouen Ducks* were an extraordinary class, and the prizes and cup carried off by one exhibitor. The day was very fine and warm, the poultry in open pens with solid backs, and the Show well attended.

POULTRY.—*DORKINGS*.—*Chickens*.—Cup and 1, J. Walker. 2 and 3, J. Cople. *BRADMAN POOTRAS*.—Cup, 1, 2, and *vhc*. T. F. Ansell. 3, Mrs. A. Tindall. *Chickens*.—1 and 2, R. Percival. 3, T. Beardsworth. *COCHINS*.—*Cinnamon* or *Buff*.—1, E. B. Percival. 2, A. Darby. *Chickens*.—1, Mrs. A. Tindall. 2, R. Percival. 3, A. J. E. Swindell. *Partridge Feather*, or any other variety.—1, R. Percival. 2, Mrs. A. Tindall. 3, J. K. Fowler. *Other variety than Cinnamon* or *Buff*.—1, T. Stretch. 2, R. B. Percival. 3, T. F. Ansell. *GAME*.—*Black-breasted Red*.—*Chickens*.—1, J. B. Pratt. 2, T. P. Lyon. 3, M. Jowett. *Brown-breasted Red*.—*Chickens*.—1, C. W. Brierley. 2, H. Beldon. 3, G. F. Ward. *Any other variety*.—*Chickens*.—Cup, H. Beldon. 2, T. Dyson. 3, J. Halsall. *Any colour*.—*Cock*.—1, J. Halsall. 2, H. E. Martin. 3, T. G. Spantise. *Chickens*.—1, H. Beldon. 2, J. Albridge. 3, J. Pitt. *HAMBURGS*.—*Golden-pencilled*.—*Chickens*.—Cup and 1, J. Long. 2, G. & J. Duckworth. 3, H. Beldon. *Silver-pencilled*.—*Chickens*.—1, H. Beldon. 2, G. & J. Duckworth. 3, G. & J. Green. *Golden-spangled*.—*Chickens*.—1 and 2, G. & J. Duckworth. 3, T. Scholes. *Silver-spangled*.—*Chickens*.—1, H. Beldon. 2, G. & J. Duckworth. 3, J. Long. *POLANDS*.—1 and 2, H. Beldon. 3, P. Unsworth. *ANY OTHER VARIETY*.—1, H. Beldon. 2, C. Sidgwick. 3, W. J. Upsher. *SELLING CLASS*.—*Chickens*.—1, R. Sutton. 2, J. Fearnley. 3, T. Wakefield. *BANTAMS*.—*Game*.—*Chickens*.—Cup and 1, W. F. Addie. 2, J. Nelson. 3, R. Brownley. *Cock*.—1, J. Nelson. 2, R. Newbitt. 3, W. Baskerville. *Any variety except Game*.—1, J. W. Crowther. 2, R. M. Leno. 3, J. Walker. *DUCKS*.—*Golden*.—Cup, 2, and 3, W. Evans. *Dylebury*.—1 and 3, J. Walker. 2, J. K. Fowler. *Any other variety, or of Ornamental Waterfowl*.—1, J. Walker. 2, C. W. Brierley. 3, M. Leno. *GESE*.—1, J. Walker. 2, J. K. Fowler. 3, J. Birch. *TURKEYS*.—1, J. Walker. 2, W. Gertard. 3, J. Brookwell.

JUDGES.—Messrs. Teebay and Fell.

### BRISTOL SHOW OF CANARIES, &c.

THIS was held on the 26th ult. The following is a list of the awards:—

CANARIES.—*NORWICH*.—*Clear Yellow*.—*Cock or Hen*.—1 and 3, J. Athersuch. 2, C. J. Salt. *Clear Buff*.—*Cock or Hen*.—1 and 2, J. Athersuch. 3, C. J. Salt. *Evenly-marked Yellow*.—*Cock or Hen*.—1, C. J. Salt. 2 and 3, J. Hopkins. *Evenly-marked Buff*.—*Cock or Hen*.—1, J. Hopkins. 2, C. J. Salt. 3, J. Athersuch. *Ticked or Unevenly-marked Yellow*.—*Cock or Hen*.—1, J. Athersuch. 2, J. Adams. 3, Brown & Gayton. *Ticked or Unevenly-marked Buff*.—*Cock or Hen*.—1, J. Adams. 2, J. Athersuch. 3, Brown & Gayton. *Crested Yellow*.—*Cock or Hen*.—1, J. Hopkins. 2, J. Athersuch. 3, G. B. Russell. *Crested Buff*.—*Cock or Hen*.—1, S. Stratford. 2, J. Hopkins. 3, G. B. Russell. *LIARDS*.—*Golden-spangled*.—*Cock or Hen*.—1 and 2, T. M. Reid. 3, S. Bunting. *Silver-spangled*.—*Cock or Hen*.—1, Cleminson & Ellerton. 2, C. J. Salt. 3, W. Evans. *Golden-spangled with Broken Caps*.—*Cock or Hen*.—2, C. J. Salt. 3, Cleminson & Ellerton. *Silver-spangled with Broken Caps*.—*Cock or Hen*.—1, W. Evans. 2, C. Greenwood. 3, C. J. Salt. *CINNAMONS*.—*Yellow*.—*Cock or Hen*.—1, J. Adams. 2, J. Athersuch. 3, W. Rice & Co. *Buff*.—1, 2, and 3, J. Adams. *ANY OTHER VARIETY*.—1, C. J. Salt. 2, J. Baker. 3, J. Hopkins.

MULES.—*GOLDEN and CANARY*.—*Variegated or Clear Yellow*.—*Cock or Hen*.—1, C. J. Salt. 2, J. Stevens. 3, Stroude & Goode. *Variegated or Clear Buff*.—*Cock or Hen*.—1 and 2, C. J. Salt. 3, J. Stevens. *ANY OTHER VARIETY*.—*Cock or Hen*.—1, R. Pearson. 2, Mrs. J. T. Holmes. 3, C. J. Salt. *FOUR BIRDS IN ONE CAGE*.—*Any variety previously mentioned*.—2 and 3, J. Adams.

BRITISH BIRDS.—*BULLFINCH*.—*Cock or Hen*.—3, J. Yallop. *GOLDFINCH*.—*Cock or Hen*.—1, J. Athersuch. 2, S. Roberts. 3, S. Bunting. *LINNET*.—*Cock or Hen*.—1, W. C. Perry. 2, S. Roberts. 3, J. K. Fowler. *SKINK*.—*Cock or Hen*.—1, R. J. Troake. 2, T. L. Liny. *SONG THRUSH*.—*Cock or Hen*.—1, W. Carriek. 2, C. J. Salt. 3, E. Gardiner. *ANY OTHER VARIETY*.—*Cock or Hen*.—1 and 2, E. Martin (Nightingale and Blackcap). 3, R. Humphrey (White Blackbird).

FOREIGN BIRDS.—*Cock or Hen*.—*PARROT*.—1, S. Bunting. 2, L. Allen. 3, G. Goddard. *COCKATOOS*.—*Cock or Hen*.—1, E. Mayett. 2, J. Drake. 3, G. Goddard. *ANY OTHER VARIETY*.—*Single or pair*.—1 and 2, J. Drake (Blue Lory and Bird of Paradise). 3, W. Perry (Green Parakeet).

LOCAL CLASSES.—*CANARY or MULE*.—*Cock or Hen*.—1 and 3, J. Bird. 2, G. K. Chilcott. *ANY OTHER VARIETY*.—*Cock or Hen*.—1, 2, and 3, Miss A. Jacobs.

SELLING CLASS.—*Cock or Hen*.—1, G. Cox. 2, W. Rice & Co. 3, J. Athersuch.

POINT CUPS.—1, C. J. Salt. 2, J. Adams.

JUDGE.—Mr. A. Wilmore.

ROSS POULTRY SHOW.—In the schedule of this Show are introduced some new prizes—viz., for dead poultry trussed for

the table, to encourage the growing of good table birds, produced of course by crossing purely bred fowls, dressed Ducks, honey, butter, &c. The Judges are Mr. E. Hewitt for poultry, and Mr. H. Allsopp for Pigeons.

### THE POWDERED OWL, MAHOMET, AND DAMASCENE PIGEONS.

It is mentioned at page 301 of Mr. Fulton's "Book of Pigeons," that the late Mr. Matthew Wicking "was the first to invent, or produce, or introduce the colour known as powdered blue." I believe Powdered Blue Owls were in existence last century, but Mr. Wicking may have produced them for himself. Mr. Moore in the "Columbarian" (1735) says of the Owl, "This Pigeon is in make and shape like the former (the Turbit), except that the upper chap of its beak is hooked over like the Owl's, from whence it has its name. Its plumage is always entirely white, blue, or black." He says nothing as to the blue being in any way different from other blue Pigeons, so that I would suppose Powdered Blues were not known to him. The colours of the Owl in his day are the colours of the African Owl now, except as to Pied Blues and Blacks, the result of breeding white and coloured birds. Coming to the Mahomet, Moore says, "This Pigeon is no more in reality than a White Barb," and he then describes how it gets the name of the Mahomet. Thirty years later, in 1765, appeared the "Treatise on Pigeons," dedicated to John Moore. The author, after quoting Moore's description of the Mahomet, says, "So far Mr. Moore, and I think he has extremely well accounted for its being so called; but it is the opinion of many fanciers that the bird called a Mahomet is nearly of a cream colour, with bars cross the wings as black as ebony; the feathers very particular, being of two colours, the upper part or surface of them appearing of a cream, and underneath a kind of sooty colour, nearly approaching to black, as are likewise the flue feathers and even the skin, which I never observed in any other Pigeons but these; its size much like that of a Turbit, with a fine gullet, and in lieu of a frill the feathers rather appear like a seam; the head is short, and inclined to be thick; hath an orange eye and a small naked circle of black flesh round the same, and a beak something resembling that of a Bullfinch, with a small black wattle on it." Now, referring to Mr. Ludlow's portrait and Mr. Caridia's description of the Damascene in Mr. Fulton's new book, there is no doubt that the Mahomet of 1765 and Damascene of to-day are identical. The head, beak, gullet, and seam all tell of its relation to the Owl tribe, and no other Pigeon I know of would do so well to cross with the Owl; in fact, I think that between 1765 and 1765 the cross was made, for the author of the Treatise says of the Owl, "The blue ones should have black bars cross the wings, and the lighter they are in colour, particularly in the hackle, the more they are valued." Is not this the description of a Powdered Owl? The Mahomet or Damascene is the powdered colour to the highest degree. I lately mentioned this idea of the origin of the Powdered Owl to Mr. Caridia, and he agreed with me. He says, in his description of the Damascene, "This variety, in my opinion, is one of the most useful for experimental purposes."

Mr. Wicking may have discovered a remnant of the breed of Powdered Owls, being a very keen fancier, but what I think more likely is that he got hold of the Damascene or Mahomet, and made the cross himself. He may have had the very pair of birds mentioned by Mr. Brent. In Mr. Brent's book, page 26, he gives the description of the Mahomet from the Treatise of 1765, but says he does not remember having seen any such birds. Again, at page 109 he gives the points of the Mahomet as follows:—"Black wattle and cere; sooty skin and down; seam on the breast; soft silver colour [a more true description than cream]. No harm in offering a class, but I fear the bird is extinct." However, after he so wrote he appears to have seen a pair of these Pigeons, for I find in Mr. Tegetmeier's book of Pigeons, page 138, and in Eaton's treatise of 1853, page 102, the following:—(Brent). "This (the Mahomet) is one of the varieties of fancy Pigeons with which I have but a very slight acquaintance, having only once seen a pair at a London dealer's, and their appearance gave me the idea of a cross between an Owl and a Barb Pigeon; nevertheless, their seam and black wattle, cere, and skin I consider sufficient distinctive peculiarities to give them a place among fancy Pigeons as a separate variety. It is very probable that the present relations existing between this country and the Sublime Porte may cause the introduction of other varieties of Pigeons from the East." And has not Mr. Brent's idea come to pass in the introduction by that grand Pigeon-fancier, Mr. H. P. Caridia, of the beautiful gems the Turbitettes, Satinettes, Blondinettes, &c., from Asia Minor? Who so likely as Mr. Wicking to get hold of the pair of Mahomets seen by Mr. Brent at the London dealer's? He might have lost one of the pair before they were acclimated, and the most likely match for the survivor would be a Blue Owl. Mr. Fulton says, "Great was the surprise of many London fanciers when the new and startling beautiful colour came upon the stage. The first we ourselves saw was about the year 1854. The colour

was produced—very likely partly by some lucky chance—by crossing Blues and Silvers, and it is most singular that, so far, crossing it with any of the small foreign specimens seems to overpower it, and it dies out." If my theory is correct the Powdered Owl is only after all half-bred as regards powdering, and therefore it is no wonder the colour goes when crossed with the dusky Blue African. But if some experimental breeder would make the cross anew between the Damascene or Mahomet and the Blue African better results might follow, and certainly the produce would be better in head and beak than any Powdered Owls I have seen. Mr. Fulton says, "It was well put once in our own hearing by that old and much-respected fancier Mr. Esquilant, who remarked that the only certain way of seeing a really true-bred English Owl now was to see a Powdered Blue." This is as much as to say that other English Owls than "Powdered" birds have been crossed with the African breed to improve them. No one after looking through Mr. Fulton's book will need to be told that Mr. Ludlow is not responsible for the colouring of the plate of English Owls. Someone has made a mess of it. The publishers would do well to publish a fresh plate, as it mars the whole book.—JAMES C. LYLELL.

## OXFORD POULTRY SHOW SCHEDULE.

The fifth Exhibition is at hand, and Oxford once more presents to the public a menu even more tasty and more comprehensive than ever. The Committee are the same as in past years; one of them, however, since last we were there has been returned Mayor for the city. We cannot attempt to criticise the classes and prizes offered; we only urge all to send by the next post for a schedule, as they will find something to suit even the most fastidious exhibitor. There are fifty-five cups or pieces of plate; there are handsome local prizes; there are four good prizes for undubbed Game cockerels; there is a £10 prize for the best Black Red cockerel; there are classes for Brown and for White Leghorns; for White-crested Black Polands, for Silkies, for Malays, for Black Ducks; there are seven classes for Bantams; there are seventeen classes for Dragoons; there is a Variety class, and nothing left to go in it. There is, in fact, a splendid prize list, a good Committee, and every prospect of a splendid show. Not only should fanciers exhibit, but fanciers should attend, for the Oxford Committee promise them a right hearty welcome, and beg us to say that everyone will be treated alike, and that there will be no partiality and no favour. Entries posted on Sunday will be in time, and all birds must be in the Show on October 23rd by midnight. The whole of the prize pens will be put up to auction on the usual terms, and all exhibitors of four pens will have a free pass. Enter early, enter largely, enter all you can, and make this important Exhibition the great success it deserves to be.—W.

## GOLDFINCHES.

In the issue of September 21st, in reply to "C. G. B.," we briefly alluded to the Goldfinch known as the "Cheverel," which possesses the white mark on the throat. By no other sign is the bird distinguished from other Finches, and this may be accepted as an answer to your question, "What are the proper points of a 'Chevalier' Goldfinch?"

The Goldfinch proper (not a "Cheverel") is judged for the following points:—Head bright scarlet red, showing no white speck or mark on the throat, the back part of the head and down the sides of the neck deep black; beak large and pointed; breast, the centre white, with the sides of the breast and flanks pure brown; back rich brown; cheeks and sides of the neck nearest the face white; large covert feathers well marked with pure yellow; feathers close, and general appearance smart, with pinion feathers in wings and tail tipped with white. But concerning other varieties Bechstein says, "The characteristics which mark the following varieties are thus:—The Goldfinch with the yellow breast; the White-headed Goldfinch; the Black-headed Goldfinch (of this variety four were taken out of the same nest); the White Goldfinch; the Black Goldfinch. These (the latter) are either entirely black, which is caused by age or being fed upon hemp, or they retain the yellow spot upon the wings. The last will sometimes happen in the cage. . . . Those Goldfinches which become black before old age resume the colour after moulting, but then do not usually live much longer."

With respect to the Black Goldfinch it is no uncommon occurrence to find such at bird exhibitions—the Crystal Palace Show in particular—and where also, two years ago, a most lovely pure white Goldfinch in beautiful condition was exhibited by Mr. W. H. Allcorn of 31, Great St. Andrew Street, London. I may state that I have in my possession a stuffed specimen of a Goldfinch of a dove colour, with the yellow markings in the primary wing feathers, but possessing only one small scarlet-red feather in the face of the bird, which in an ordinary specimen would be bright scarlet-red surrounding the base of the beak. The bird, with three others, was taken alive from a nest in Gloucestershire

some ten years ago, and given to me by Mr. G. Cummings of Gloucester.

Bechstein further remarks—"The tail should be slightly forked and black, the two, and sometimes the three, first pinion feathers having a white spot in the centre of the inner web, and the rest with white tips. The female is a little smaller, not so broadly and beautifully red about the beak; the chin brownish; the cheeks intermixed with bright brown; the smaller coverts of the wings brown, and the back of a deeper dark brown. The size and even deficiency of some of the white tips of the pinion feathers cannot be taken as a distinguishing characteristic between the sexes, as some birdcatchers assert, and as little may we adopt their opinion that the size and number of these spots constitute different varieties. These distinctions are accidental, and depend on the state and age of the bird."

Some Goldfinches are larger than others and are termed Pine Goldfinches, whilst the smaller birds are called Garden Goldfinches, and are assumed to be bred only in gardens; but Bechstein remarks, "these differences are quite imaginary," and assumes the first birds hatched are usually the largest, which accounts for the variation in size of the same species of birds.

Broderip says that "the *débonnaire* Goldfinch builds one of the most elegant nests that our Finches produce: moss, lichens, wool, and grass, artistically intertwined, form the outside of the fabric, which is generally hidden in a quiet orchard or secluded garden, where, in the midst of some evergreens—an arbutus, perchance—it is protected from the prying eye by the compact leafy screen of the well-grown healthy shrub." The Rev. F. O. Morris says, "the Goldfinch builds in orchards and other trees;" and Yarrell remarks that "the Goldfinch builds a very neat nest, which is sometimes fixed in an apple tree or pear tree."

Many amateur bird-breeders make much ado about possessing a "Cheverel" Finch for breeding purposes, and such birds are generally estimated at greater value. Some bird-dealers assert that the variety termed a "three-by-six" is the bird proper for breeding with. Such are known by the three outer tail feathers upon each side being mottled with white in the inner web, whilst the six centre tail feathers are dark. But to me the matter is of little consideration so that I possess a Finch of an ordinary kind that will breed.

It has often been a matter of surprise to find a want of knowledge existing in rural districts with respect to one of our choicest-plumed British birds—the Goldfinch, which is so ignorantly confounded with the Yellowhammer, which latter specimen is frequently and persistently asserted to be the Goldfinch, whilst master Goldie is dubbed a "Red Linnet."—GEORGE J. BARNESBY.

## BEES' EGGS—TIME REQUIRED FOR HATCHING.

The time, from the egg, required for the development of queen and worker bees is a point of much importance in practical bee-culture. The following experiments to determine it are taken from my private journal begun in 1862:—

July 24th, 1863.—I at 12 A.M. took a Ligurian queen from a large stock and put her with bees enough to form a strong nucleus, into a box having six small combs. The two central frames were filled with worker comb built the same season, from which nearly all the brood had just hatched, the others were well supplied with both honey and pollen. 2½ P.M.—Saw no eggs, queen upon a central comb, evidently preparing to lay. 3½ P.M.—A few eggs laid. Judged that the queen began laying about 3 P.M. 25th. 12 A.M.—Removed the queen. 28th. 9 A.M.—One queen cell begun. The larvae plentifully supplied with jelly.

August 1st. 6 A.M.—Five or six worker larvae apparently just sealed over (capped), one queen cell almost capped. 7 A.M.—One queen cell capped. The nucleus has been kept strong in bees, and all the other conditions have been favourable. All of the eggs, about four hundred in number, were laid in one of the new worker combs, and although the interval between the laying of the first and last egg could not have exceeded twenty-one hours, the development of the larvae in different cells is more irregular than might be expected. 12 A.M.—Another queen cell capped. 8th. 5 P.M.—A queen just hatched. For some hours after this nucleus was made and examinations were made at intervals not exceeding half an hour. While engaged in these experiments a queen hatched in each of two strong stocks, between three and four hours less than ten days after the stocks were unqueened. 10th. 10 P.M.—All the queens but one had hatched and were removed. 11th. 5 A.M.—The last queen has hatched, her pale appearance showing that she could be only a few hours old. Her cell was on the edge of the comb, and the egg was probably among those last laid. 12th. 5 P.M.—Two workers hatched. The examinations to-day have been made at intervals of not more than half an hour. 13th. 5 A.M.—Workers hatching freely. 14th. All the bees in the central cells had hatched, there being only a rim of two or more cells wide still unhatched. 15th. 6 A.M.—Thirty yet unhatched. 10 A.M.—Twenty all in the extreme outside cells of the circle of cells which contained the eggs. 5 P.M.—Thirteen. 16th. 6 A.M.—Five unhatched. 8 P.M.—The last worker gnawing its way out.



During the whole time while these experiments were being made the thermometer ranged from over 70° to over 90°; and as the colony was never opened when it was not above 90°, and seldom when it was not nearer 80°, there seems no probability that the development of the larvæ could have been perceptibly checked.\*

No experiments were made by me to determine whether black and Ligurian bees may not slightly vary in the time of their development.

My experiments on drone eggs unfortunately were not so successful, and determined nothing more definite than that drones may hatch in about twenty-four days from the egg.

The experiments above detailed warrant the following conclusions:—1. Bees may begin to build a queen cell in less than four days after an egg has been laid in a worker cell.

2. Queen and worker larvæ may have their cells capped at least seven days and fifteen hours after the eggs were laid.

3. A perfect queen may hatch in fifteen days and two hours from the time the egg was laid in a worker cell.

4. A queen may hatch in three or four hours less than ten days after the stock was unqueened.

5. A perfect queen may not hatch, even under very favourable circumstances, until nearly sixteen days and a half have elapsed since the egg could have been laid in a worker cell.

6. A worker may hatch in nineteen days and two hours from the egg, and there may be an interval of precisely four days between the development of a queen and a worker.

7. While most of the workers may hatch in less than twenty-one days from the egg, some may not hatch before the twenty-third day, so that in the same colony there may be a difference of more than three days in the time taken to develop workers from the egg.

8. The eggs of the queen bee do not therefore necessarily hatch at precise intervals from the time they were laid, any more than the eggs placed at once under the domestic hen hatch simultaneously.—L. L. LANGSTROTH, *Oxford, Ohio.*

### BEES COLOURING WAX.

THERE is a statement by your esteemed correspondent Mr. Pettigrew in your last number which I cannot let pass unchallenged. Mr. Pettigrew says that bees "always temper the colour of the lids of brood cells to correspond with the colour of combs." Now, my experience has been that bees never cap brood cells with new wax, but as the edges of the cells are of extra thickness, and contain sufficient material to form a cap, they simply draw out the edges, and so cover over the cell. We know that the dark colour of old comb arises from impurities, so I cannot conceive that bees should dirty the caps of the brood cells (apparently the only part that is "tempered," according to Mr. Pettigrew) just for the sake of uniformity of colour. It is true that bees sometimes use grey and dirty materials, but is not that because they have cut up and are using some old comb? for as soon as that is exhausted, and "before many inches are built, they use nothing but pure wax."—J. P. J.

### FEEDING SWARMS IN AUTUMN.

THE creation of stocks by feeding the bees of honey hives will, I am sure, become more common and popular year by year. The introduction of large hives tends to the adoption of this practice. I lately wrote to a friend who lives in a district in which many bees are kept and well managed, to ask if the bees of honey hives could be bought with money. His answer is to this effect, that all the hives in the neighbourhood were too heavy for keeping, and that the bees were driven from them all and their honey taken. The swarms had been united in pairs, and fed into stocks. A correspondent of this Journal has, he informs us in last week's number, been giving a united swarm 1 lb. of syrup daily, and asks how long he has to continue giving this to the hive. I think it better to give the syrup in larger doses. After the first two or three days we give 3 lbs. of syrup every night to a large swarm, and often more. A swarm of 5 lbs. of bees requires from 15 lbs. to 20 lbs. of sugar boiled in as many pints of water. Twenty pounds of sugar makes about 40 lbs. of syrup. All this should be given to a large swarm in fifteen days. If given in smaller portions less comb is built, and less food is stored up, simply because the bees consume a great deal themselves during the excitement of feeding. No writer on bees that I know has ever fully made known the great consumption of food by bees in times of excitement and hard work. A strong hive at the swarming season loses about a pound weight every night; and what is spent in the wear and

tear of a full day's work no one can tell. In creating stocks by artificial feeding it should be borne in mind that the bees have combs to build, themselves and their brood to feed, as well as store up food enough for winter. Autumn feeding, we have said again and again, should be speedily done. A fortnight ago the readers of this Journal were informed that I offered £7 10s. per 100 lbs. of condemned bees—that is 7s. 6d. per swarm of 5 lbs. The offer was accepted and the bees sent. One or two lots did not arrive safely, but the great bulk came all right. Having so many to feed at the same time we have been using dripping-tins and pie-dishes of various sizes and complexions as feeding troughs. Those that hold most syrup are the best for the bees, for I find that the swarms that have the largest doses have done better than the rest. All are doing well, but those that had the largest dishes under them are now fully fed, and about as perfect and excellent stocks as the eye of man ever looked on.—A. PETTIGREW.

### BEES SWARMING WITHOUT A QUEEN.

LAST year I had a very large swarm which I tried to prevent swarming, so as to obtain as much honey from the bees as I could. I cut out the queen cells once in every eight days, and put on one of Mrs. Farnham's non-swarmers so that the queen could not escape. The result was the bees swarmed three times and returned to the hive. The next performance was, they gathered on the hive and remained overnight, covering three sides of the hive. The next day at ten I went out to take a look at them, and it was my last look; for, while standing there viewing them, they started in a body, rose 50 feet in the air, and disappeared in thirty seconds. I opened the hive, and there was my queen all right.

This year I had a swarm become queenless; I opened the hive to see if they were building queen cells, and found in one drone comb that every cell on one side was being prepared for queens, and was supplied with queen jelly. One cell was completed, which I cut open and out came a queen as lively as a cricket. I put her in the hive, but she never laid.—M. O. HAZEN (*in Prairie Farmer*).

### OUR LETTER BOX.

LUMPS ON HEN'S TOE (*Amateur, Bury*).—If small cut them off with a sharp knife. Dair is useful as a change of food.

FOWLS' WINGS DROOPING AND DYING (*Firle*).—They are fed too generously. Having three acres of grass to range over they need, except in days of frost and snow, only a little whole corn (no buckwheat), in the morning, and a little soft food when going to roost.

GOAT-KEEPING (*A Fifteen-years Acquaintance*).—In our twenty-sixth volume is all that we could glean about the subject. The great obstacle is the wax of a buck goat.

WAX FROM OLD COMBS (*M. J. P.*).—The easiest way of extracting wax from old combs is by boiling them in clean water. First press the combs into little bulk, then put them into a bag made of thin towelling or cheese-cloth, tie the mouth of the bag tightly, and let all boil over a slow fire for twenty minutes. All the wax in the combs will come to the surface, and may be easily skimmed off and put through a strainer. In cleaning the utensils afterwards use plenty of soda, which destroys the adhesive power of the wax.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

[Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.]

DATE.	9 A.M.					IN THE DAY.					Rain.
	Baromet- er at 39- feet and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
										Deg.	
1876. Sept. and Oct.	Inches.	deg.	deg.	N.	deg.	deg.	deg.	deg.	In.		
We. 27	29.644	56.7	55.3	N.	57.3	69.6	54.6	86.5	65.2	0.048	
Th. 28	29.413	60.0	58.0	S.	57.0	66.8	53.0	106.2	47.6	0.178	
Fri. 29	29.686	55.0	51.9	W.	56.9	64.0	47.6	109.8	44.1	0.016	
Sat. 30	29.570	54.3	52.6	N.	56.4	57.3	46.8	83.4	42.9	0.514	
Sun. 1	29.326	55.2	51.2	N.W.	54.9	61.2	52.3	101.4	51.0	—	
Mo. 2	30.197	52.9	47.8	S.E.	54.1	55.5	40.8	88.8	37.8	0.010	
Tu. 3	29.871	55.0	53.0	N.E.	53.2	68.0	49.5	99.2	45.2	0.030	
Means.	29.787	55.6	52.8		55.7	61.9	49.2	92.9	46.2	0.791	

### REMARKS.

27th.—Very damp and dark all day; heavy shower at midnight.  
28th.—Fine at eight, rain at nine, pouring at 9.30 A.M., and very dark; mid-day fair; evening and night wet.  
29th.—Very fine morning and forenoon, but rain at 1.30, lunar halo at 9 P.M.  
30th.—Rainy and very dark all day and all night. A most miserable day. [day.  
Oct. 1st.—Dull morning, fine before noon, and very fine all the rest of the day.  
2nd.—Pleasant day though rather cool. Min. temp. fell to 37.5°.  
3rd.—A bright pleasant day, the sun at times very bright, less fine towards dusk, and slight rain in the evening.  
Atmosphere generally damp with frequent rain, temperature lower especially the maxima.—G. J. SYMONS.

### COVENT GARDEN MARKET.—OCTOBER 4.

A QUIET trade doing, with prices inclined to be lower. The supply of Peaches has fallen off, and fair samples are now making good prices. We are still mainly dependant upon France for best Pears, the sorts now coming being Duchesse d'Angoulême, Louise Bonne de Jersey, and Beurré d'Amanlis. Kent Cobs have experienced a further fall this week.

\* On the 19th of February a queen hatched in a few hours more than twelve days, after her mother was accidentally killed while I was making some experimental examinations. The colony was a small one, the hive poorly protected, and the weather quite cold the most of the time that she was maturing. On the 22nd of November a perfectly developed queen hatched in a small nucleus in not over sixteen days from the egg. The days were quite cold and the nights generally frosty.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 12—18, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
12	TH	Hull Show closes.	59.2	41.4	50.3	6 21	5 12	morn.		8 55	25	13 37	256					
13	F	Twilight ends 7.4 P.M.	60.7	41.8	51.2	6 22	5 10	1 3	8 50	26	13 51	257						
14	S	Fire Insurance must be paid.	59.9	40.5	50.2	6 24	5 8	2 29	4 3	27	14 5	258						
15	SUN	18 SUNDAY AFTER TRINITY.	59.0	40.5	50.6	6 26	5 6	3 53	4 13	28	14 18	259						
16	M	Valisnerius died, 1730.	59.0	40.1	50.5	6 27	5 4	5 14	4 26	29	14 30	290						
17	TU		58.8	40.7	49.1	6 29	5 2	6 36	4 39	30	14 42	291						
18	W		60.4	40.7	40.9	6 31	5 0	7 55	4 54	1	14 53	292						

From observations taken near London during forty-three years, the average day temperature of the week is 59.6°; and its night temperature 49.1°.

## THE DAHLIA.



HIS noble autumn flower is not so much grown now as it was ten or fifteen years ago. In many large and pretentious gardens no Dahlias are grown, or, if they do find a place, it is not an honourable one; they are huddled away into some corner, or they fill up a gap in a shrubbery border. The Dahlia cannot be said to be a fashionable flower. It is not adapted for carpet bedding or the geometrical flower garden, although some of the dwarf flowering sorts sometimes do good service as a back row to the ribbon borders. It is not in the south of England that the Dahlia is seen to the best advantage in private gardens. In the north of England and many districts in the south of Scotland a favourable portion of the kitchen garden is not unfrequently devoted to its special culture, or a border may be specially prepared in the flower garden, where the Dahlia is made to do duty as a background flower. In either case careful culture is insisted upon. The flowers are thinned out according to their character, those varieties tending to coarseness bearing the largest number of flowers, while small and medium-sized sorts may be thinned-out to any extent. During the month of September the Dahlia is in its prime in the south, and the best flowers are exhibited about the third week in the month. It is necessary to hold the exhibitions in some parts of Scotland earlier than this, as the flowers are not unfrequently cut off by frost before that time. I have been urged to write these and the following remarks on the Dahlia from the fact that many persons grow the flower who require the aid of a few cultural notes.

By the time this appears in print the Dahlia season will be nearly over; the first frosty night makes sad havoc amongst the plants. Some growers cut the plants down and dig them up at once, but this is not desirable: a better plan is to place a spadeful of soil or any dry material round the base of the plants, and allow them to remain a week or two longer. When it is time to take the roots up the plants should be cut off about 6 inches above the ground, the roots should be carefully lifted with a fork, placing them in a sunny position with the stems downwards. This will dry them and allow all the water to drain out of the hollow stems; a large quantity sometimes finds its way in at the axils of the branches, and lodges in the stem at the crown of the plants. The labels should be firmly fastened to the stems, and the tuberous roots be placed in a shed where no frost can gain access. The roots may be placed closely together, and be covered over with dryish sand or leaf soil. They ought not to be kept quite dry, and, on the other hand, damp is almost equally injurious. It is important to have the roots well dried before storing them.

If it is intended to propagate a large number of plants, the roots may be placed in the forcing house about the end of January or early in February; but, as a rule, the middle or end of March is sufficiently early. I generally

plant the roots closely together in a box in some light soil, just covering the tubers. If the boxes can be placed in gentle bottom heat so much the better. The night temperature should be from 50° to 55°. I am not writing now for the information of trade growers, who would not be content with such low temperatures. They start their plants early and force rapidly, the object being to propagate the largest number of plants in a given time; whereas the private grower looks to the quality more than the quantity of his plants. In a week or two after putting the roots into heat the young shoots will appear, and when they are an inch or so in length they may be taken off close to the main stem, and the cuttings should be potted singly in small 60's or thumb-pots in soil composed of equal parts of leaf soil and loam, with a little sand added to it. The pots should be plunged in bottom heat either in a frame or propagating house. The cuttings will soon strike root, and when this is the case they ought to be removed to the greenhouse or heated pit. The young plants ought to be placed near the glass, as otherwise they are apt to become drawn. In a few days they may be repotted into 4 or 5-inch pots, and when fairly established be placed in a cold frame, where in mild weather the lights may be entirely removed, but covering the plants up closely when there is danger of frost. In the north it is not safe to plant out until the very last week in May, and sometimes beginning of June, but if planting is deferred so late as this the plants ought to be again potted into 6 or 7-inch pots. If they become rootbound it is certain that they cannot start into vigorous growth.

Of course the soil ought to be prepared long before planting-out time. The ground should be trenched at once, and this is an important preliminary operation. Unless the ground is rich and deeply trenched good Dahlias cannot be expected. A good manure is that from the cows and the stable-yard thrown into a heap and slightly heated. The comparatively dry hot dung absorbs the moisture of the cool cow manure, and the object in using it when in a state of fermentation is that the ammonia is absorbed by the earth instead of being wasted. I have often described the method of trenching ground and wish to avoid repetition. A good dressing of manure ought to be applied, and a thickish layer of turfy loam ought to be placed over the upper coat of dung about 6 inches below the surface; this is the more necessary when the same ground is required to grow Dahlias many years in succession. During winter it is very desirable to fork the surface of the ground over frequently in fine weather; after rains the surface becomes caked and impervious to air, but on no account ought the soil to be touched in wet weather.

We now come to the end of May or beginning of June. The ground has been well prepared, and also the plants by exposure night and day to the open air; and before planting they ought to have been in a position sheltered, it may be, from the north and east, but where the sun could shine upon them during the greater part of the day. The heights of Dahlias range from 3 feet to 5 or even 6 feet, and this must be taken into account at planting

time. Say a border has to be planted with four rows, and the plants are to be put in 3 feet apart—it must not be less than this—a line should be stretched 18 inches from the edge, the sticks should then be driven well into the ground where it is intended to plant the Dahlias, and the front-row sticks should be about 3 feet out of the ground, the next row may be 9 inches higher, and so on, which will make the back or fourth row 5 feet 3 inches. A fair-sized hole should be taken out in front of each stick, and a compost of turfy loam, a little decayed manure, and leaf soil mixed together should be placed in the holes, and in this the Dahlias must be planted, fastening each securely to its stick with a stout strip of matting. As the plants progress in growth, which they will do rapidly if no check is received from cold, the side growths must be thinned out, and when those that remain are grown sufficiently sticks must be put in to support them. The Dahlia grows at a very rapid rate, and in this stage it takes up a large supply of strong food. The surface of the ground should be covered with short manure, and when the dry season sets in the plants require plenty of water. It is necessary to shade the flowers if they are intended for exhibition, and a very watchful eye must be given for earwigs, which are remarkably fond of the petals. This pest must be constantly trapped, either by placing small pots inverted with a little moss in them on the top of the sticks, or some bean-stalks cut in 6-inch lengths ought to be placed about the plants; into these the insects crawl at night, and can be destroyed next day.

The following is a list of stage and fancy sorts adapted either for decorative purposes at home or for cutting for exhibition:—

*Show Dahlias*.—Aeme of Perfection, Alexander Cramond, Arbitrator, Barmad, Charles Leicester, Cremorne, Flag of Truce (Goodall), Herbert Turner, James Cooker, James Service, John Dunnington, John Standish, Julia Wyatt, Lady Gladys Herbert, Leah, Mr. Sinclair, Mrs. Boston, Mrs. Henshaw, Ovid, John Bennett, Prince Arthur, Royal Purple, Samuel Plimsoll, Thomas Goodwin, Toison d'Or, William Keynes, William Pringle Laird, Yellow Standard, and Willie Austin.

*Fancy Dahlias*.—Dolly Varden, Ebor, Egyptian Prince, Flora Wyatt, Flossie Williams, Grand Sultan, Laura Haslam, Miss Lillie Large, Mrs. Saunders, Mrs. Standish, Parrot, Pauline, Prospero, Remarkable, Rev. J. B. M. Camm, Richard Dean, and Viceroy.—J. DOUGLAS.

## FRUIT TREES FOR SMALL GARDENS.—No. 2.

THE selection of one, two, or half a dozen sorts of Pears and Apples is, I think, much more difficult than the choice of other fruits, from the fact of the great number of kinds of real excellence which we have of both these useful fruits. If I am asked to name one sort I reply to my querist by asking at what time ripe Pears are most wanted, as the period during which they may be had extends over two-thirds of the year. In August one of the best Pears is Citron des Carmes, in September Williams' Bon Chrétien, in October Comte de Lamy, in November Doyenné du Comice and Dana's Hovey, in December Winter Nelis and Knight's Monarch, which last affords a supply of ripe fruit from December to March. Dana's Hovey, from its sturdy compact growth and great fertility, is specially adapted for small gardens. Its delicious little fruit, which ripens in November, keeps good quite six weeks after it is ripe.

An Apple which ripens in autumn and keeps good for two or three months is of more general use than other sorts of more brief duration and coming to maturity very early or very late. The variety which I may therefore select as a good autumn and winter dessert fruit is Cox's Orange Pippin. Irish Peach and Kerry Pippin are the best earlier sorts, and Margil is in season with and keeps good a month longer than Orange Pippin. All four are prime sorts admirably adapted for small gardens, Margil being especially remarkable for the productiveness of young trees of it upon the Paradise stock. For a supply of kitchen Apples from August onwards through the nine following months take Keswick Codlin, Duchess of Oldenburg, Cox's Pomona, Alfriston, Hanwell Souring, and Gooseberry Apple. The great productiveness of Keswick Codlin in all stages of growth, from the smallest newly planted pyramid up to the hoary old standard, its earliness, and compact yet free growth, combine to make it an especial favourite in all gardens. All the other kinds are of the highest order of excellence in their respective seasons. I have long ago sung the praises of Hanwell Souring, which is good long after spring flowers make their appearance, and I would now strongly com-

mend Gooseberry Apple to general notice as a fine old sort of much excellence for tarts in May and June when other fruit is scarce. Its fruit keeps best when suffered to hang long upon the trees—late in October, a few frosts doing it no harm.

The very limited area of wall space in a small garden should be exclusively devoted to the Peach, Nectarine, Apricot, Fig, Cherry, and Plum; the south, or west, or intermediate aspects answering best for Peaches and Nectarines, taking the south-west for choice, the east for Apricots, and the north for late Cherries and Plums. Figs answer well in any warm tolerably sheltered sunny position. By late Cherries I, of course, mean Morellos, so useful late in autumn, and with them I would always associate the two fine late Plums Ickworth Imperatrice and the old Blue Imperatrice, both valuable October dessert fruits, keeping good long after most other sorts.

I may usefully conclude these notes with a word of advice, or rather of caution, upon the evils of crowding young trees together and overcropping. However small your garden may be, never crowd the trees or anything else; far better is it to grow a few trees really well than several more than you have room for very badly. Eschew "riders" on walls, plant dwarf-trained trees 20 feet apart, plant well, and let nothing tempt you to put other trees temporarily between them. If you do, an impoverished border, confused, crowded, often diseased growth, will follow. The removal of the interlopers will very likely be put off year by year till the whole of the trees are irretrievably ruined; and by the time you would have had the wall completely clothed with fine healthy trees in full bearing, and with every prospect of their continuing so for a lifetime, you will have a state of things leading to total failure—stunted growth, which, if not barren, bears fruit that is so small and poor-flavoured as to be comparatively worthless.

In or around the quarters of the garden plant either cone-shaped trees termed "pyramids," or those which are trained on wires or a wooden trellis, and termed "espaliers," the first kind to be 10 feet apart, and the last 20 feet. Plant no "standards," as those trees are called which have their branches elevated on long bare stems. They are unsightly objects, affording no pleasure in their culture, they shade a large portion of valuable ground, and what is, perhaps, most important, are very subject to have much of the fruit battered by the wind or shaken off prematurely.

Whatever may be the form which you may impart to your trees, keep the branches sufficiently far apart to allow light and air to penetrate freely to the base of every one of them, striving to render every part of a fruit tree available for the production of good fruit.—EDWARD LUCKHURST.

## TEA ROSES FOR A COLD VINERY.

IN answer to "H. L." First I must congratulate him on possessing such a desirable structure as a glass house 36 feet long by 18 wide. I cannot imagine anything more delightful than planting such a space with Tea Roses. As to sorts, I will give him the selection that I should plant. I apprehend that he could plant eighteen in each row, and that the space would admit of nine rows, which would therefore give him 162 Tea Roses. What a glorious privilege 160 Teas, where winter's frost will not injure, and the summer's heat is tempered to these delicate plants by a protecting but not obstructing screen of Vine leaves!

I should recommend him to have about twenty-six sorts and six of each. Of course if he has climbers he must plant them against the back wall; but if his house is a span-roofed one he must dispense with climbers.

I cannot make out what his house is; but presuming it is a lean-to one I should recommend him to plant about six climbers, which would leave a space of 6 feet to each. These should be selected from the following sorts—Cloth of Gold, Solfaterre, and Maréchal Niel, Noisettes; Climbing Devonensis, Madame Berard, and Belle Lyonnaise, Teas. The last-named is infinitely inferior to Gloire de Dijon: in fact this variety is surpassed by three of her children.

Next as to the remainder of the space. I should plant six of each of the following—Catherine Mermet, Marie Van Houtte, Souvenir d'Elise, Souvenir d'un Ami, Souvenir de Paul Neron, Comtesse de Nadaillac, Kubens, Homère, Reine du Portugal (this lovely variety is too tender for outdoor culture, but will do splendidly in a house), Anna Olivier, Perle de Lyon, Marie Arnaud, Jean Ducher, Perle des Jardins, Mons. Furtado, Adam, Alba Rosea, Celina Noirey, David Pradel, La Boule d'Or, Niphotos, Madame Willermoz, Madame Charles, Madame

Falcot for buds, Madame Jules Margottin, Madame Margottin, and Moiré, Teas; and Céline Forestier and Triomphe de Rennes, Noisettes. If he has not room for all he can leave out Madame Charles and Madame Falcot. If he buys these this year he should not have them sent him just now, as here the Teas are in full bloom. I should say the beginning of December would be soon enough for planting.

As to culture, he cannot do better than follow the capital advice given by one of your correspondents a little while ago in an article on pot Roses. I should, however, recommend him to prune very sparingly. He must not allow his Vines to shade the Teas too much, or they will suffer. A brother of mine who lives in Yorkshire has a span-roofed house filled with Teas, but he finds it necessary to heat it; but as "H. L." lives in Somerset no doubt this will be quite unnecessary. The sorts I have named are all beautiful varieties, as he will find about May next year.—WYLD SAVAGE.

### CRAWFORD'S EARLY PEACH.

THE gardening periodicals speak in high terms of this Peach; the couple of dishes of it exhibited this season have made a decided mark. Now, I have always held an opinion that the exhibition table is not to be compared to the dinner table for deciding the merits of anything in the fruit and vegetable line. Some may not see this, nevertheless I find it so. Few can grow Peaches merely to show once or twice in the season. Most of us are expected to have a supply of Peaches for the table daily from August to the end of September from outdoors, and if we have houses so much sooner must the fruit be ready. To do this we must have reliable varieties. To those who have room only for a tree or two it is still more important to have not only good productive sorts, but also varieties that will hold their own at the exhibition table; there are plenty of established varieties that will do both.

I give way to no one for love of variety when it is good, but I cannot allow that—I may call it a whim—to carry me away from that which is serviceable. It is all very well to have variety when room will permit, as, for instance, in large gardens let there be Crawford's Early by all means. In penning these remarks I am thinking of others having limited wall room, and who may, after what has been written of Crawford's Peach, be inclined to give it a place as a reliable variety. Well, so far as my experience goes it is far from being a reliable variety; so much so, that after three years' trial after the tree had become of a fruiting condition I find this rosy-cheeked beauty only obtain applause when before a public audience; but if we look, as it were, behind the scenes—namely, in the family circle, we find a very different estimate, for one good and beautiful Peach will hardly counterbalance the five or six ill-looking disagreeable fruit accompanying it.

I have always entertained a different notion of the words "good" and "bad" from most people. It is generally said, "Oh, give me little and good," &c., but I say, Give me plenty of what is good, and as little as possible of what is bad.

Now, it is just possible that Crawford's Peach may suit those who want little and good, for they will surely have little that is good, and as surely have much that is bad for the little that is good. Crawford's Peach is for the few and not the many. When you can obtain enough it is fine for the exhibition table, but we have plenty far better varieties for the home table—large, high-flavoured, good-looking, heavy-cropping sorts of the same season of ripening. We may find a place for this variety if it came extremely early or late, but it is neither. We have our latest Peach in the Salwey, of which Crawford's "Early" may be called a midseason variety. Taking the two the Salwey is far the best, simply because it carries us on for a few weeks after the better sorts are gone. I feel I am not the only one who thinks Crawford's is not a desirable Peach. If not so, why is it we have not heard something of it from those who have cultivated it? So far as I have read not a word has been said from them, and I may say the proper quarter. On what grounds, then, has it been spoken so highly of? Only, I presume, from the few dishes that have been seen at the exhibition table.

Let those unearth themselves who have found it to be other than what I have said of it, and give the readers of this Journal some proof that it deserves their attention as an "excellent Peach." Here is my three years' experience of it:—First year no fruit. A good few on most of other varieties. Second year a fair crop as regards number, but not one in six came to perfection—viz., one good eatable large fruit to five or

six small ill-flavoured, ill-shaped, worthless fruit. All other varieties produced a very heavy crop of large high-coloured well-flavoured fruit. The third year the tree had five or six fruit, and one of them was a perfect beauty, as noble fruit as ever I saw, and it had, too, four or five small, the size of a good Plum—as worthless fruit as a tree could produce. No one could eat them—no, not even a hungry schoolboy. It only remains for me to say that the tree is in perfect health.—JNO. TAYLOR, *Hardwicke Grange.*

### THE CULTURE OF LETTUCES.

THIS well-known and long-established vegetable is so common and cultivated in such large quantities, especially in the neighbourhood of London, that it might be termed the salad for the million, nothing being more relished as a salading by all classes of the community than a well-grown Lettuce.

Simple as the growth of Lettuces may appear, it is not by any means an easy task to keep-up an unbroken supply of well-hearted, well-blanching, and crisp Lettuces, but one which requires a considerable amount of forethought and attention. To meet this demand it is necessary to make one or more sowings of the Bath or Brown Cos (black-seeded), in an open space during the second or third week in August. I usually sow on or about the 20th, but sometimes the date has to be regulated by the weather. From these sowings sturdy plants are to be obtained during November: they must be planted under hand-lights, frames, or on the border of a south wall, where they will stand most of our ordinary winters without protection. In this border I plant them 6 inches apart, and during March prepare a rich piece of ground, when I carefully lift with a trowel or fork every other row and every other plant in the rows remaining. These I transplant a foot apart, and they form a succession to those left on the south border, which will furnish an excellent supply of crisp Lettuces in early May. Attention must be paid to frequent hoeings and waterings should a dry spring set in. This variety if grown quickly and well blanching is considered to be the most crisp and best-flavoured Lettuce grown. Should any fear exist of not having a sufficient early supply, the Early Paris Market Cabbage variety, sent out by Messrs. James Veitch & Sons a year or two since, is an admirable sort for quick produce, and may be used very young. A few seeds sown among the early frame Potatoes or Carrots, and the plants planted before they have become weak or drawn will be found to turn-in very quickly, and will prove valuable where the demand is great. It will be found a very good plan to sow a pinch of the seed of this variety on a warm border during February, as also a sowing of Paris White Cos, or the selected stocks of this variety the Kingsholm and Alexandra White Cos, which will form a good succession to the above. After this time it will become necessary to make a sowing every fortnight or three weeks, and I know of no better summer Lettuce than the Paris White Cos. It is, under good cultivation, self-folding, and has not a very hurried tendency to bolt with the heat and drought.

A plan which I generally adopt, and which I have great confidence in, is to sow on a well-manured but light piece of ground in drills a foot apart, thin-out before the plants become crowded, and transplant the sturdiest of them, which form a succession to those left remaining where sown. I am a great advocate for lifting Lettuce plants carefully, for breaking the roots and fibres causes a great check and predisposes the plants to bolt when transplanted; but Paris Cos, if sown successionally and treated as advised, will carry on a supply until frost sets in.

Two sowings of the Bath or Brown Cos should be made the middle of July to the first week in August. The former of these will give a supply of plants during October and November, and the latter will carry us on from Christmas onwards. The plants from these sowings will of course require protection under glass, so they must be lifted with good balls and planted in frames in an open position, for damp is a great enemy to them in these quarters; it will therefore be necessary to give all the air possible consistent with keeping them dry.

I have always found that the Cos varieties are most in request, but, judging from what I saw a short time ago in Plymouth market, I should say they are very little known in the west, for not a creditable specimen was to be had, but good Cabbage Lettuces were plentiful. On inquiry I was told they had no sale for the Cos varieties. All the Year Round is a first-class Cabbage variety, and worthy of being grown where the Cabbage varieties are not objected to.



In tying Lettuces for blanching the work must not be done while they are wet or when they are very hot, or they are apt to sweat, and consequently decay inside. Slugs are great enemies during autumn and winter to the Lettuces, also a grub—the larva of some insect, both of which must be waged war against. The first of these devours the tops, while the grub will be found to gnaw plants off at the junction of the stem; these grubs will be found buried in the ground.—J. W. MOORMAN.

### VOTES IN ELECTION OF ROSES.

Mr. H. ATKINSON, Brentwood, Essex.

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. Alfred Colomb            | 26. Edward Morren             |
| 2. Baronne de Rothschild    | 27. Exposition de Brie        |
| 3. Charles Lefebvre         | 28. Fisher Holmes             |
| 4. Comtesse d'Oxford        | 29. Général Jacqueminot       |
| 5. Dr. Andry                | 30. Horace Vernet             |
| 6. François Michelon        | 31. Henri Ledechaux           |
| 7. John Hopper              | 32. Madame Clémence Joigneaux |
| 8. La France                | 33. Madame Lacharme           |
| 9. Louis Van Houtte         | 34. Mlle. Marie Cointet       |
| 10. Madame Victor Verdier   | 35. Maurice Bernardin         |
| 11. Mlle. Eugénie Verdier   | 36. Olivier Delhomme          |
| 12. Marguerite de St. Amand | 37. Pierre Notting            |
| 13. Marie Baumann           | 38. Reynolds Hole             |
| 14. Marie Rady              | 39. Victor Verdier            |
| 15. Marquise de Castellane  | 40. Xavier Olibo              |
| 16. Etienne Levet           | 41. Catherine Mermet          |
| 17. Monsieur Noman          | 42. Gloire de Dijon           |
| 18. Sénateur Vaisse         | 43. Madame Bravy              |
| 19. Devoniensis             | 44. Madame Willermoz          |
| 20. Maréchal Niel           | 45. Marie Van Houtte          |
|                             | 46. Niphetos                  |
| 21. Abel Grand              | 47. Rubens                    |
| 22. Camille Bernardin       | 48. Souvenir d'Elise          |
| 23. Capitaine Christy       | 49. Souvenir d'un Ami         |
| 24. Duke of Edinburgh       | 50. Lemaque                   |
| 25. Dupuy Jamin             |                               |

Mr. R. W. BEACHEY, Kingskerswell, South Devon.

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|-----------------------------|--------------------------------|
| 1. Alfred Colomb            | 26. Duke of Wellington         |
| 2. Maréchal Niel            | 27. Madame Victor Verdier      |
| 3. Louis Van Houtte         | 28. Madame Willermoz           |
| 4. Marie Baumann            | 29. Madame Bravy               |
| 5. La France                | 30. Mlle. Eugénie Verdier      |
| 6. Devoniensis              | 31. Mlle. Marie Finger         |
| 7. Camille Bernardin        | 32. Mlle. Marie Rady           |
| 8. Baronne de Rothschild    | 33. Lelia                      |
| 9. Charles Lefebvre         | 34. Comtesse d'Oxford          |
| 10. Ferdinand de Lesseps    | 35. Richard Wallace            |
| 11. John Hopper             | 36. Jean Ducher                |
| 12. Etienne Levet           | 37. Baron de Bonstetten        |
| 13. Cheshunt Hybrid         | 38. Princess Mary of Cambridge |
| 14. Catherine Mermet        | 39. Prince Camille de Rohan    |
| 15. François Michelon       | 40. Sénateur Vaisse            |
| 16. Duke of Edinburgh       | 41. Xavier Olibo               |
| 17. Marie Van Houtte        | 42. Souvenir d'Elise           |
| 18. Marquise de Castellane  | 43. Souvenir de Paul Neron     |
| 19. Dupuy Jamin             | 44. Centifolia Rosa            |
| 20. Souvenir d'un Ami       | 45. Victor Verdier             |
|                             | 46. Emilie Hausburg            |
| 21. Fisher Holmes           | 47. Niphetos                   |
| 22. Dr. Andry               | 48. Paul Neron                 |
| 23. Pierre Notting          | 49. Belle Lyonnaise            |
| 24. Gloire de Dijon         | 50. Abel Grand                 |
| 25. Marguerite de St. Amand |                                |

Mr. GEORGE BERRINGTON, Julian Place, Julian Road, Ludlow, Salop.

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|-----------------------------|------------------------------|
| 1. Alfred Colomb            | 26. Dr. Andry                |
| 2. Charles Lefebvre         | 27. Dupuy Jamin              |
| 3. Comtesse d'Oxford        | 28. Duchesse de Caylus       |
| 4. Duke of Edinburgh        | 29. Duke of Wellington       |
| 5. Devoniensis              | 30. Emilie Hausburg          |
| 6. John Hopper              | 31. Exposition de Brie       |
| 7. La France                | 32. Fisher Holmes            |
| 8. Louis Van Houtte         | 33. Gloire de Dijon          |
| 9. Maréchal Niel            | 34. Horace Vernet            |
| 10. Marie Baumann           | 35. Lyonnaise                |
| 11. Madame Victor Verdier   | 36. Paul Neron               |
| 12. Baronne de Rothschild   | 37. Madame C. Wood           |
| 13. Mlle. Eugénie Verdier   | 38. Madame Lacharme          |
| 14. Marquise de Castellane  | 39. Madame Willermoz         |
| 15. François Michelon       | 40. Madame G. Schwartz       |
| 16. Etienne Levet           | 41. Madame C. Joigneaux      |
| 17. Marie Rady              | 42. Niphetos                 |
| 18. Marguerite de St. Amand | 43. Maurice Bernardin        |
| 19. Sénateur Vaisse         | 44. Prince Camille de Rohan  |
| 20. Xavier Olibo            | 45. Pierre Notting           |
|                             | 46. Reynolds Hole            |
| 21. Auguste Bigotard        | 47. Souvenir d'un Ami        |
| 22. Belle Lyonnaise         | 48. Souvenir d'Elise         |
| 23. Beauty of Waltham       | 49. Souvenir de la Malmaison |
| 24. Camille Bernardin       | 50. Victor Verdier           |
| 25. Catherine Mermet        |                              |

Mr. BURRELL, Heighington, Darlington.

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|--------------------------|----------------------|
| 1. Charles Lefebvre      | 6. Madame V. Verdier |
| 2. Alfred Colomb         | 7. Dr. Andry         |
| 3. Baronne de Rothschild | 8. Maréchal Niel     |
| 4. La France             | 9. Louis Van Houtte  |
| 5. Marie Baumann         | 10. Etienne Levet    |

11. François Michelon
12. Pierre Notting
13. Marquise de Castellane
14. Ferdinand de Lesseps
15. Mlle. Eugénie Verdier
16. Devoniensis
17. Duke of Edinburgh
18. Horace Vernet
19. John Hopper
20. Xavier Olibo

21. Comtesse d'Oxford
22. Exposition de Brie
23. Dupuy Jamin
24. Thomas Mills
25. Monsieur Noman
26. Emilie Hausburg
27. Annie Laxton
28. Gloire de Dijon
29. Marquise de Gibot
30. Souvenir d'Elise

31. Souvenir d'un Ami
32. Mad. Hippolyte Jamin
33. Capitaine Christy
34. Reynolds Hole
35. Cheshunt Hybrid
36. Maurice Bernardin
37. La Duchesse de Morny
38. Sénateur Vaisse
39. Marie Rady
40. Abel Grand
41. Hippolyte Jamin
42. Comtesse de Serenyi
43. Catherine Mermet
44. Duke of Wellington
45. Madame C. Wood
46. Madame Willermoz
47. Duchess of Edinburgh
48. Madame Lacharme
49. Marie Van Houtte
50. Beauty of Waltham

Mr. Barrall adds, "I have put Ferdinand de Lesseps and Exposition de Brie in the list as distinct Roses, but they are so much alike that it is difficult to distinguish any difference."

Rev. J. B. M. CAMM, Monckton Wyld, Charmouth.

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|----------------------------|-----------------------------|
| 1. Alfred Colomb           | 26. Duke of Wellington      |
| 2. Baronne de Rothschild   | 27. Edward Morren           |
| 3. Camille Bernardin       | 28. Emilie Hausburg         |
| 4. Charles Lefebvre        | 29. Fisher Holmes           |
| 5. Dr. Andry               | 30. Général Jacqueminot     |
| 6. La France               | 31. John Hopper             |
| 7. Etienne Levet           | 32. Louis Van Houtte        |
| 8. Ferdinand de Lesseps    | 33. Marguerite de St. Amand |
| 9. Horace Vernet           | 34. Marquise de Mortemart   |
| 10. Madame Victor Verdier  | 35. Madame Vidot            |
| 11. Mlle. Eugénie Verdier  | 36. Madame C. Wood          |
| 12. Marie Baumann          | 37. Madame G. Schwartz      |
| 13. Marquise de Castellane | 38. Mlle. Marie Finger      |
| 14. Pierre Notting         | 39. Mlle. Marie Rady        |
| 15. Souvenir d'Elise       | 40. Mlle. Annie Wood        |
| 16. Souvenir d'un Ami      | 41. Mlle. Marie Cointet     |
| 17. Catherine Mermet       | 42. Maréchal Vaillant       |
| 18. Maréchal Niel          | 43. Maurice Bernardin       |
| 19. Marie Van Houtte       | 44. Monsieur Noman          |
| 20. Comtesse d'Oxford      | 45. Prince Camille de Rohan |
|                            | 46. Reynolds Hole           |
| 21. Abel Grand             | 47. Sénateur Vaisse         |
| 22. Antoine Ducher         | 48. Victor Verdier          |
| 23. Beauty of Waltham      | 49. Xavier Olibo            |
| 24. Duchesse de Caylus     | 50. Devoniensis             |
| 25. Duke of Edinburgh      |                             |

Mr. Camm adds, "In this list many Roses of undoubted excellence are omitted simply on account of the list being confined to fifty. There is nothing among H.P. Roses in my opinion to be compared to Marie Van Houtte, Catherine Mermet, Souvenir d'Elise, and Souvenir d'un Ami."

Mr. CHATEL, Cambridge.

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|-----------------------------------|---|
| 1. Charles Lefebvre (best of all) | 26. Beauty of Waltham                     |
| 2. Marie Baumann                  | 27. Duchesse de Caylus                    |
| 3. Maréchal Niel                  | 28. Dupuy Jamin                           |
| 4. Louis Van Houtte               | 29. Felix Genero                          |
| 5. Devoniensis                    | 30. Horace Vernet                         |
| 6. John Hopper                    | 31. François Michelon                     |
| 7. Baronne de Rothschild          | 32. Lelia                                 |
| 8. Madame Willermoz               | 33. Madame Fillion (lovely)               |
| 9. Madame Victor Verdier          | 34. Madame Auguste Verdier                |
| 10. Niphetos                      | 35. Madame Rivers (still one of the best) |
| 11. Marquise de Castellane        | 36. Madame Bravy                          |
| 12. Comtesse d'Oxford             | 37. Maurice Bernardin                     |
| 13. Duke of Edinburgh             | 38. Monsieur Boncenne                     |
| 14. La France                     | 39. Monsieur Noman                        |
| 15. Emilie Hausburg               | 40. Pierre Notting                        |
| 16. Souvenir d'un Ami             | 41. Victor Verdier                        |
| 17. Reynolds Hole                 | 42. Xavier Olibo                          |
| 18. Edward Morren                 | 43. President                             |
| 19. Sénateur Vaisse               | 44. Souvenir d'Elise                      |
| 20. Mlle. Eugénie Verdier         | 45. Madame Margottin                      |
|                                   | 46. Antoine Ducher                        |
| 21. Dr. Andry                     | 47. Gloire de Vitry                       |
| 22. Alfred Colomb                 | 48. Duke of Wellington                    |
| 23. Marie Rady                    | 49. Prince Camille de Rohan               |
| 24. Mlle. Thérèse Levet           | 50. Marguerite de St. Amand               |
| 25. Abel Grand                    |   |

Rev. ALAN CHEALES, Brookham Vicarage, Surrey.

- |                           |                             |
|---------------------------|-----------------------------|
| 1. Alfred Colomb          | 20. Mlle. Eugénie Verdier   |
| 2. Charles Lefebvre       |                             |
| 3. Marie Baumann          | 21. Madame Lacharme         |
| 4. Maréchal Niel          | 22. Madame C. Wood          |
| 5. La France              | 23. Madame Berard           |
| 6. Baronne de Rothschild  | 24. Madame C. Crapet        |
| 7. Marquise de Castellane | 25. Mlle. Marie Rady        |
| 8. Louis Van Houtte       | 26. Mlle. Marie Finger      |
| 9. Duke of Edinburgh      | 27. Comtesse de Serenyi     |
| 10. Comtesse d'Oxford     | 28. Dupuy Jamin             |
| 11. Madame Victor Verdier | 29. Star of Waltham         |
| 12. Etienne Levet         | 30. Capitaine Christy       |
| 13. Sénateur Vaisse       | 31. Horace Vernet           |
| 14. Pierre Notting        | 32. Prince Camille de Rohan |
| 15. Gloire de Dijon       | 33. Fisher Holmes           |
| 16. Cheshunt Hybrid       | 34. Léopold Hausburg        |
| 17. Madame Bravy          | 35. Reynolds Hole           |
| 18. Souvenir d'un Ami     | 36. Annie Laxton            |
| 19. Edward Morren         | 37. Annie Wood              |

38. Paul Neron
39. Céline Forestier
40. Marie Van Houtte
41. Duke of Wellington
42. Princess Mary of Cambridge
43. Souvenir d'Elise
44. Victor Verdier

Captain CHRISTY, Buckhurst Lodge, Westerham, Kent.

1. Alfred Colomb
2. Charles Lefebvre
3. Baronne de Rothschild
4. Marie Baumann
5. Dr. Andry
6. Comtesse de Serenyi
7. Dupuy Jamin
8. Emilie Hausburg
9. Etienne Levat
10. François Michelon
11. Hippolyte Jamin
12. Beauty of Waltham
13. La France
14. Louis Van Houtte
15. Marie Rady
16. Marguerite de St. Amand
17. Monsieur Noman
18. Catherine Mermet
19. Souvenir d'Elise
20. Maréchal Niel
21. Abel Grand
22. Annie Laxton
23. Camille Bernardin
24. Capitaine Christy
25. Comtesse de Chabrillant

45. Miss Hastard
46. The Shah
47. Léopold I.
48. Baron Gnella
49. Devoniensis
50. Catherine Mermet

26. Comtesse d'Oxford
27. Duke of Wellington
28. Duke of Edinburgh
29. Duchesse de Caylus
30. Henri Ledechaux
31. Horace Vernet
32. John Hopper
33. Jules Margottin
34. Madame Lacharme
35. Mlle. Annie Wood
36. Mlle. Marie Finger
37. Mlle. Thérèse Levat
38. Mlle. Eugénie Verdier
39. Marquise de Castellane
40. Maurice Bernardin
41. Nardy Frères
42. Souvenir d'un Ami
43. Perle des Jardins
44. Victor Verdier
45. Xavier Olibo
46. Alba Rosea
47. Devoniensis
48. Jean Ducher
49. Sénateur Vaisse
50. Niphotos

Mr. HAMMOND DAVIS, Parkeide, Horsham.

This list is placed in what Mr. Davis thinks their "order of merit."

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Maréchal Niel            | 28. Catherine Mermet        |
| 2. Charles Lefebvre         | 27. Prince de Portia        |
| 3. Alfred Colomb            | 28. Hippolyte Jamin         |
| 4. Marie Rady               | 29. Annie Laxton            |
| 5. La France                | 30. François Michelon       |
| 6. Marie Baumann            | 31. Horace Vernet           |
| 7. Baronne de Rothschild    | 32. Le Havre                |
| 8. Madame Victor Verdier    | 33. Abel Grand              |
| 9. Sénateur Vaisse          | 34. Xavier Olibo            |
| 10. Louis Van Houtte        | 35. Marie Finger            |
| 11. Pierre Notting          | 36. Marguerite de St. Amand |
| 12. Marquise de Castellane  | 37. Edward Morren           |
| 13. Reynolds Hole           | 38. Thorin                  |
| 14. Etienne Levat           | 39. Belle Lyonnaise         |
| 15. Comtesse d'Oxford       | 40. Baron de Bonstetten     |
| 16. Emilie Hausburg         | 41. Cheshunt Hybrid         |
| 17. Velours Pourpre         | 42. Capitaine Christy       |
| 18. Dr. Andry               | 43. Mlle. Thérèse Levat     |
| 19. Prince Humbert          | 44. Annie Wood              |
| 20. Madame Charles Wood     | 45. Duchesse de Caylus      |
|                             | 46. Ferdinand de Lesseps    |
| 21. Madame C. Crapélet      | 47. Madame Lacharme         |
| 22. John Hopper             | 48. Gloire de Dijon         |
| 23. Prince Camille de Rohan | 49. Paul Verdier            |
| 24. Duke of Edinburgh       | 50. Dupuy Jamin             |
| 25. Mlle. Eugénie Verdier   |                             |

Mr. M. L. DAVIS, Oldland Common, Bristol.

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|----------------------------|------------------------------|
| 1. Maréchal Niel           | 26. Madame Victor Verdier    |
| 2. Catherine Mermet        | 27. Mlle. Eugénie Verdier    |
| 3. Alfred Colomb           | 28. Mlle. Bonnaire           |
| 4. Charles Lefebvre        | 29. David Pradel             |
| 5. Reynolds Hole           | 30. Jean Ducher              |
| 6. Souvenir d'un Ami       | 31. Souvenir de la Malmaison |
| 7. Niphotos                | 32. Duke of Edinburgh        |
| 8. Perle des Jardins       | 33. Duke of Wellington       |
| 9. Devoniensis             | 34. Dupuy Jamin              |
| 10. Comtesse d'Oxford      | 35. Capitaine Christy        |
| 11. Etienne Levat          | 36. Camille Bernardin        |
| 12. Emilie Hausburg        | 37. Abel Grand               |
| 13. François Michelon      | 38. Fisher Holmes            |
| 14. La France              | 39. Ferdinand de Lesseps     |
| 15. Boule de Neige         | 40. Général Jacqueminot      |
| 16. Louis Van Houtte       | 41. John Hopper              |
| 17. Marie Baumann          | 42. Horace Vernet            |
| 18. Marie Rady             | 43. Marguerite de St. Amand  |
| 19. Marquise de Castellane | 44. Sénateur Vaisse          |
| 20. Pierre Notting         | 45. Prince Camille de Rohan  |
|                            | 46. Victor Verdier           |
| 21. Gloire de Dijon        | 47. Vicomte Vigier           |
| 22. Anna Olivier           | 48. Céline Forestier         |
| 23. Madame Willermoz       | 49. Marie Van Houtte         |
| 24. Baronne de Rothschild  | 50. Xavier Olibo             |
| 25. Madame Bravy           |                              |

Rev. H. DOMBRAIN, Ashford, Kent.

- |                            |                            |
|----------------------------|----------------------------|
| 1. Alfred Colomb           | 12. Louis Van Houtte       |
| 2. Baronne de Rothschild   | 13. Marquise de Castellane |
| 3. Comtesse Nadailiac      | 14. Madame Victor Verdier  |
| 4. Charles Lefebvre        | 15. Madame Lacharme        |
| 5. Comtesse de Chabrillant | 16. Maréchal Niel          |
| 6. Cloth of Gold           | 17. Marie Baumann          |
| 7. Duke of Edinburgh       | 18. Marie Van Houtte       |
| 8. Duchesse de Caylus      | 19. Pierre Notting         |
| 9. Gloire de Dijon         | 20. Reynolds Hole          |
| 10. John Hopper            |                            |
| 11. Jules Margottin        | 21. Baron Bonstetten       |

22. Catherine Mermet
23. Comtesse d'Oxford
24. Dr. Andry
25. Dupuy Jamin
26. Devoniensis
27. Général Jacqueminot
28. Horace Vernet
29. Homère
30. Jean Pernet
31. La France
32. Lord Macanlay
33. Madame Vidot
34. Madame Falcot
35. Madame Margottin
36. Mlle. Eugénie Verdier

Mr. G. W. JESSOP, Melbourne Cottage, Ottershaw, Chertsey.

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|-----------------------------|-----------------------------|
| 1. Alfred Colomb            | 26. Alba Rosea              |
| 2. Duc de Rohan             | 27. Duke of Edinburgh       |
| 3. Charles Lefebvre         | 28. Ferdinand de Lesseps    |
| 4. Gloire de Dijon          | 29. Jules Margottin         |
| 5. Baronne de Rothschild    | 30. Madame Charles Wood     |
| 6. Abel Grand               | 31. Madame Charles Crapélet |
| 7. Comtesse d'Oxford        | 32. Madame Hippolyte Jamin  |
| 8. John Hopper              | 33. Mlle. Thérèse Levat     |
| 9. Lord Macanlay            | 34. Mlle. Marie Cointet     |
| 10. Louis Van Houtte        | 35. Maxime de la Rocheterie |
| 11. Maréchal Niel           | 36. Marguerite de St. Amand |
| 12. Marie Baumann           | 37. Marquise de Gibot       |
| 13. La France               | 38. Marquise de Castellane  |
| 14. Capitaine Christy       | 39. Etienne Levat           |
| 15. Souvenir d'Elise        | 40. Catherine Mermet        |
| 16. Mlle. Eugénie Verdier   | 41. Perle des Jardins       |
| 17. Mlle. Marie Rady        | 42. Souvenir d'un Ami       |
| 18. Eliza Belle             | 43. Niphotos                |
| 19. Prince Camille de Rohan | 44. Lyonnaise               |
| 20. Sénateur Vaisse         | 45. Belle Lyonnaise         |
|                             | 46. President Thiers        |
| 21. Dr. Andry               | 47. Annie Wood              |
| 22. Victor Verdier          | 48. Richard Wallace         |
| 23. Horace Vernet           | 49. Sophie Coguerel         |
| 24. Cloth of Gold           | 50. André Durand            |
| 25. Mons. E. Y. Teas        |                             |

Mr. THOMAS JOWITT. List contained no address.

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|-------------------------------------|--------------------------------|
| 1. Alfred Colomb                    | 26. Emilie Hausburg            |
| 2. Baronne de Rothschild            | 27. Hippolyte Jamin            |
| 3. Charles Lefebvre                 | 28. Lord Macaulay              |
| 4. Comtesse d'Oxford                | 29. Madame C. Crapélet         |
| 5. Duke of Edinburgh                | 30. Madame de Ridder           |
| 6. Horace Vernet                    | 31. Madame Furtado             |
| 7. La France                        | 32. Madame G. Schwartz         |
| 8. Le Havre                         | 33. Madame Lacharme            |
| 9. Louis Van Houtte                 | 34. Madame Vidot               |
| 10. Mlle. Eugénie Verdier           | 35. Madame Victor Verdier      |
| 11. Mlle. Marie Rady                | 36. Marguerite de St. Amand    |
| 12. Marie Baumann (the best of all) | 37. Marquise de Castellane     |
| 13. Maréchal Niel                   | 38. François Michelon          |
| 14. Monsieur Noman                  | 39. Etienne Levat              |
| 15. Reynolds Hole                   | 40. Olivier Delhomme           |
| 16. Catherine Mermet                | 41. Pierre Notting             |
| 17. Xavier Olibo                    | 42. Prince Camille de Rohan    |
| 18. Niphotos                        | 43. Princess Mary of Cambridge |
| 19. Souvenir d'Elise                | 44. Sénateur Vaisse            |
| 20. Souvenir d'un Ami               | 45. Souvenir de General Douai  |
|                                     | 46. Belle Lyonnaise            |
| 21. Charles Rouillard               | 47. Devoniensis                |
| 22. Comtesse de Serenyi             | 48. Madame Bravy               |
| 23. Dr. Andry                       | 49. Madame Caroline Knster     |
| 24. Dupuy Jamin                     | 50. Monsieur Boncenne          |
| 25. Edward Morren                   |                                |

Mr. HINTON, Warminster.

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|-------------------------------|------------------------------|
| 1. Gloire de Dijon            | 26. Capitaine Christy        |
| 2. Charles Lefebvre           | 27. Duke of Edinburgh        |
| 3. Catherine Mermet           | 28. Louis Van Houtte         |
| 4. Maréchal Niel              | 29. Monsieur Boncenne        |
| 5. Souvenir d'un Ami          | 30. Xavier Olibo             |
| 6. Alfred Colomb              | 31. Sénateur Vaisse          |
| 7. Marquise de Castellane     | 32. Dupuy Jamin              |
| 8. Marie Baumann              | 33. Thomas Mills             |
| 9. Mlle. Eugénie Verdier      | 34. Maurice Bernardin        |
| 10. Baronne de Rothschild     | 35. Ferdinand de Lesseps     |
| 11. Dr. Andry                 | 36. Duchesse de Caylus       |
| 12. Pierre Notting            | 37. Devoniensis              |
| 13. Marie Rady                | 38. Général Jacqueminot      |
| 14. John Hopper               | 39. Etienne Levat            |
| 15. Camille Bernardin         | 40. Triomphe de Rennes       |
| 16. François Michelon         | 41. Victor Verdier           |
| 17. Madame Victor Verdier     | 42. Antoine Ducher           |
| 18. La France                 | 43. Edward Morren            |
| 19. Emilie Hausburg           | 44. Mlle. M. Dombrain        |
| 20. Comtesse d'Oxford         | 45. Madame Derreux Douville  |
|                               | 46. Marguerite de St. Amand  |
| 21. Madame Clémence Joigneaux | 47. Madame Charles Wood      |
| 22. Madame Hippolyte Jamin    | 48. Exposition de Brie       |
| 23. President Willermoz       | 49. Souvenir de la Malmaison |
| 24. Mlle. Marie Cointet       | 50. Marquise de Mortemart    |
| 25. Beauty of Waltham         |                              |

Mr. THOMAS LAXTON, Stamford, Lincoln.

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|---------------------|--------------------------|
| 1. Charles Lefebvre | 5. Baronne de Rothschild |
| 2. Etienne Levat    | 6. Marie Baumann         |
| 3. Alfred Colomb    | 7. La France             |
| 4. Maréchal Niel    | 8. Annie Laxton          |

9. Marquise de Castellane  
10. Dr. Andry  
11. Sénateur Veisse  
12. Louis Van Houtte  
13. Xavier Olibo  
14. Pierre Notting  
15. Dupuy Jamin  
16. Souvenir d'un Ami  
17. Duke of Wellington  
18. Madame Lacharme  
19. François Michelin  
20. Cheshunt Hybrid

21. Devonensis  
22. Marguerite de St. Amand  
23. Madame Victor Verdier  
24. Madame C. Crapelet  
25. Madame C. Wood  
26. Monsieur Noman  
27. Mlle. Marie Cointet  
28. Mlle. Marie Raby  
29. Mlle. Annie Wood

30. Reynolds Hole  
31. Duke of Edinburgh  
32. Duc de Rohan  
33. François Louvat  
34. Maréchal Vaillant  
35. Felix Genaro  
36. Comtesse d'Oxford  
37. Mlle. Eugénie Verdier  
38. Ferdinand de Lesseps  
39. Gloire de Santenay  
40. Fisher Holmes  
41. Horace Vernet  
42. Thomas Mills  
43. Auguste Rigotard  
44. Devienne Lamy  
45. Souvenir d'Elise  
46. Catherine Mermet  
47. Perle des Jardins  
48. John Hopper  
49. Duchesse de Caylus  
50. Camille Bernardin

(To be continued.)

### MIXED BORDERS.

MIXED BORDERS are especially enjoyable during October and the beginning of November when we are so fortunate as to have fine mild weather, and when Geraniums, Verbenas, and the ordinary bedding plants can only be distinguished by their leaves, and those grown solely for their beauty of foliage are beginning to look dingy. There are at present in full beauty, and likely to continue for some time if the weather permits, amongst hardy perennials some of the handsomest flowers in existence: and, not only handsome flowers but handsome plants—plants with elegant foliage and symmetrical growth, which will bear examination individually as well as collectively, and to which most indoor plants as grown by ordinary cultivators at this time of year will bear no comparison. Where cut flowers, too, are much in request the mixed borders afford an almost inexhaustible store, and many of the flowers last good a very long time.

I think one of the principal reasons why hardy perennials do not receive more favourable attention is that those who make borders of them attempt too much in one place. The principal advocates for such borders claim as their especial merit that there is always something coming into flower and something going out. The "something coming in" is very well, but the other part is not so pleasant. It is not everyone who takes delight in examining withering flower stems and seed pods, and therefore to make these borders as attractive as possible to everybody they should be arranged more according to the time of flowering of the different subjects. It may be unscientific, but gardeners have to please the many, and not the few who are learned in botanical lore.

My noble employer, when making a new garden three years ago, stipulated that little or nothing should be planted there which flowered before July; and although owing to this decision I was obliged to exclude many very beautiful plants, I now see the wisdom of this arrangement and would carry it still further. In many extensive pleasure grounds, where there is an attempt at landscape effect, and where formal beds and the ordinary bedding plants are entirely out of place, owing, perhaps, to the owner's uncontrollable passion for flowers, we often see a vulgar blot on the most beautiful scenery by the introduction of such flowers and flower beds; while suitable flowers tastefully planted would give all the requisite brightness and sweetness without jarring on the taste of the most refined and critical artist.

There is no reason why there should not be a hardy perennial garden for each of the four seasons, or even for every month in the year, where there are perhaps half a hundred acres of woodland walks and kept pleasure grounds; and it is surprising when one makes out a list what a host of beautiful hardy plants there are for every month, even through the depths of winter. Spring gardening as done in the present day is frequently an abomination. Formal beds of Daisies and Primroses are incongruous, and the plants do not look half so happy as the Primroses in the woods and lanes or the Daisies in the cottage garden. I have not a word to say against parterre gardening in the proper place; Geraniums, Verbenas, and the like do not look so well anywhere else as they do in massive formal beds, and at the time they flower there is such a predominance of lively green all around that the eye can bear a great deal of colour without pain if the colours are well arranged and the plants used are suited for the purpose.

I will now name the best of the hardy plants which are

flowering to-day (October 6th), and which are likely to continue for some time, omitting all such as have yet to flower, and they are many, as well as those which are just going out of flower, and they are more numerous still. I should be glad if those of your readers who are conversant with the subject would add to the list all the good hardy early October flowers which come under their observation. I do not want those of botanical or microscopical interest only, but such as will command attention from everybody, and of such I believe are the following:—*Achillea ptarmica* flore-pleno; *Anemone vitifolia*, *A. japonica*, and *A. japonica alba*; *Oenothera macrocarpa*, *O. riparia*; *Tritonia aurea*; *Polygonum Braunii*, *P. Sieboldii*; *Chelone Lyoni*; *Helianthus multiflorus*, *H. orgyalis*; *Colechicum* in great variety, *Crocus ditto*, *Sedum spectabile*; *Lilium speciosum*, *L. speciosum album*; *Phygelius capensis*, *Galatella cana*, *Tritoma grandis*, *Alstromeria peittacina*, *Phloxes* in variety late planted, *Chrysocoma Linosyris*; *Aster patens*, *A. longifolia variegata*, *A. tenuifolia*; *Aconitum autumnalis*, *Coreopsis lanceolata*; *Stevia mexicana*, *S. canescens*; *Plumbago Larpentæ*, *Tricyrtis hirta*, and *Violets*. The foregoing are perfectly hardy; a few others not quite so hardy and worth the trouble of sheltering in such parts of the country as they require it are herbaceous *Lobelias*, *Pentstemons* in great variety, *Fuchsias* (the best varieties of these are, I believe, as hardy as *F. Riccartoni* if treated in a similar way, and they are very beautiful outside now), and *Hydrangeas*.

In addition to these I have many half-hardy plants in mixed borders in fine bloom now, but which I hope to separate from hardy plants as soon as my stock of the latter becomes sufficiently rich. Among the half-hardy plants are *Salvia patens*, *S. splendens*; *Chrysanthemum frutescens*, *C. carinatum* in variety; *Coronilla glauca* (struck from cuttings in the spring and now 3 feet high and full of flower), *Marvel of Peru*, *Intermediate Stocks*, *Mignonette*, *Antirrhinums*, *French Marigolds*, *African ditto*, *Sweet Alyssum*, *Sanvitalia procumbens*, *Coreopsis tinctoria*, *Alonzoa Warszewiczii compacta*, *Heliotropes*, *Amaranthus atropurpureus*, and *Dahlias*, of which the following are amongst the best as good showy border flowers producing an abundance of bloom of good quality without any nursing and shading—namely, *Charles Backhouse*, brightest scarlet; *Criterion*, rosy lilac; *Andrew Dodds*, dark crimson; *James Cocker*, dark purplish crimson; *Toison d'Or*, yellow, neat habit; *Netty Buckle*, light lilac; *Flag of Truce*, white; *Lady Dunmore*, crimson and orange; *Queen Mab*, scarlet and white, very showy; *Lord Derby*, purple; *Bird of Passage*, white and rosy lilac tipped, small, but exceedingly pretty; and *Chairman*, orange.—WILLIAM TAYLOR.

### WIMBLEDON HOUSE.—No. 2.

THE RESIDENCE OF SIR HENRY W. PEEK, BART., M.P.

On page 262 the ornamental grounds and flower garden of this fine suburban residence were described, and there remain to be noticed some other departments which are under the gardener's care. As was notified in the previous article, the mansion is connected with the flower garden by an avenue of Elms. These are stately trees, and form a densely shaded walk—a shelter alike from rain and sun—and a most agreeable promenade. The mansion is commodious, but not elaborately ornate, and its situation is attractive and salubrious—attractive by the fine trees by which it is surrounded and the beautiful park-like view from its windows, and salubrious by its gravelly soil and its contiguity to the wide expanse of Wimbledon Common, which is as famed for the purity of its air as it is for the annual popular volunteer fêtes, which were opened by Her Majesty The Queen, who fired the first shot on July 2nd, 1860.

On the lawn near the mansion are some fine old Cedars of Lebanon with seats around their stems, and a noteworthy specimen of that distinct and ornamental deciduous tree—*Salisburia adiantifolia*, the Maidenhair Tree. This tree is a native of China and Japan, and is there known as the Ginkgo tree. In its native country this tree attains to a height of 100 feet, and it grows generally in a conical form, but the Wimbledon specimen is of spreading habit; it is, in fact, much broader than it is long, its height being 45 feet, while the spread of its branches is 56 feet, its stem being 8 feet in circumference at 3 feet from the ground. The *Salisburia* is an elegant tree throughout the summer months, and is distinct by its wedge-shaped deeply-lobed leaves, which in the autumn assume a bright golden hue, rendering the tree conspicuous and ornamental. It is perfectly hardy, and should be more commonly seen in pleasure grounds.

On the lawn are bold clumps of Rhododendrons and standard Portugal Laurels, several good specimens of *Biota aurea*, and near the broad walk flower beds. These beds are on grass, but are surrounded with narrow paths of white spar, and, as if to render the contrast as decisive as possible, a large number of dark-foliaged plants are employed in filling the beds. On each side of the entrance to the mansion is a grand specimen of the American Aloe. These plants cannot be less than 10 feet in height, and are in luxuriant health. They pass the winter in the orangery, a large old-fashioned structure at the end of the walk. Such buildings are now obsolete, and are useless in comparison with the light modern-built structures of the present day. Near the mansion is a conservatory, but it is also old-fashioned and much too dark for ordinary decorative plants. Only one plant in the structure deserves mention—a *Lapageria rosea*. This plant was trained up one of the supporting pillars, and had grown into a dense thick column, and carried a heavy crop of mealy bug. In order to destroy this the plant was taken down, and on replacing the growths they were found to be more numerous than was necessary, and instead of cutting them off they were taken underground, and made to furnish another part of the house. The flagstones were lifted, and the shoots of the *Lapageria* laid under them, with the tips of the shoots on the opposite side. From the shoots thus layered a wonderful growth issued. From the edge of the slabs young shoots sprang up like heads of *Asparagus*, and this growth has covered the end of the house and a great portion of the roof. The plant is now perfectly healthy and free from the bug, which once so sorely infested it.

Pass we now to buildings of more modern date—the splendid range of glass structures which form the northern boundary to the principal flower garden. This noble range of houses was erected by Sir Henry Peek, who employed in their construction Mr. James Gray of Chelsea. The range is about 130 feet in length by 40 feet in width. The houses are very lofty, the upright side sashes being 15 to 20 feet high, and the central dome is 50 feet in height. A wall is taken the whole length of the range from the ground to about the centre of the roof on the north side. Behind this wall were formerly sheds, but which are now converted into Orchid houses and ferneries. At the southern side of this wall are the principal houses of the range—spacious and lofty places, devoted almost wholly to plant-culture. In each house is a square central pit. Passing through the corridor, the pit of the first house is planted with Roses, principally Teas. Roses are also on the walls and roof. The next compartment is occupied mostly with Azaleas, and with Roses covering the walls. From this we pass into a stove, which is filled with Palms and other ornamental-foliaged plants; a fine stock of *Pancratium zeylanicum*, which is much prized here, *Eucharis*, &c.; the back wall being covered with *Begonia nitida*, a grand wall plant in winter and spring. The roof is covered with *Stephanotis* and *Allamandas*, and Orchids are suspended over the paths. We now come to a narrow cross corridor, which contains large plants of *Hedychium coronarium*; and amongst the wall plants is *Phytolacca decandra*, laden with pendulous racemes of its dark-coloured berries. This corridor adjoins the central compartment. In the centre under the dome is a specimen of *Araucaria excelsa*, surrounded with *Seaforthias*, *Alsophilas*, &c. At the front of these is rock-work furnished with Ferns, *Lycopods*, *Yuccas*, &c.; on the north side, a fine specimen—a centenarian—of *Beaucarnea recurvata*. At the corners or angles of this principal compartment, which is square, are beds of *Camellias* with other plants associated with them. Going westward we enter another cross corridor, occupied with *Plumbagos*, *Lapagerias*, and Olive trees from Portugal; and from this corridor we enter the aquatic house.

In the centre is a tank 25 feet square, in the warmed water of which are growing *Nymphaeas* in variety, *N. dentata* being the most admired, with *Papyrus*, &c. Supported above the surface of the water are stove plants which require moisture, the large original plant of *Tabernaemontana coronaria* being particularly noticeable. It is a large standard plant having a head 4 or 5 feet in diameter, and flowers freely. From this plant Mr. Ollerhead has propagated a large number of young plants, which are also in a flowering state. The roof of this house is covered with *Allamandas*, not trained closely and formally, but the shoots are allowed to fall in natural festoons; these are literally laden with flowers, producing a canopy of gold of remarkable beauty. In this house *Allamandas* are exactly "at home," and it is no exaggeration to say that they have produced many thousands of flowers during the season.

In this house *Cattleyas* are grown on rafts and suspended from the roof; and the place and mode of culture are precisely suited to them, for they are in luxuriant health and in due time cannot fail to produce grand flowers. *Laelia superbiens* is exceptionally vigorous, and is throwing up robust flower spikes freely. We pass next into the Banana house, the central pit being occupied by these stately tropical plants. It is from this house that Mr. Ollerhead cut the remarkable cluster weighing 97 lbs. which was exhibited at South Kensington during the present season, and for which a cultural commendation was unanimously awarded. The roof of this house is partially covered with *Passifloras* and *Dipladenias*. The next and last division is filled with Orange trees from Lisbon, which are being prepared for Sir Henry Peek's new place in Devonshire. In this house are large numbers of *Adiantum farleyense* which appear to grow in common loam like weeds, and a number of succulents. A porch at the end of this division opens into the flower garden. Such is a rapid glance at this range. Many plants have necessarily remained unnoticed, such as collections of economic plants, fine *Euphorbias*, &c. It should be mentioned, however, that the back wall is clothed with Roses, &c., which are growing in the central pits, and are conveyed over the paths by a series of wire arches, which are both ornamental and useful; no provision having been made for forming a border at the foot of the wall for growing climbers.

At the back of this range, as before mentioned, is another range having a northern aspect. Of this range it can only be said that one division is filled with Pitcher-plants of all the best kinds; another division is devoted to East Indian Orchids; another to cool Orchids, *Odontoglossums*, *Masdevallias*, &c.; and other divisions to Ferns and *Camellias*. Of the plants generally it need only be said that they are in excellent health. The Orchids are numerous, and proof has been afforded at the Floral Committee meetings of the Royal Horticultural Society that these plants are in excellent hands.

Behind this range are other houses of a plainer description and devoted to the growing of fruit, also plants for cut flowers and ordinary decorative purposes. A range of the same length as that noticed is devoted to the cultivation of Vines, Peaches, and Pines. The Vines are old, and are growing in soil that appears to be a mixture of sandy loam and peat—much too light and poor in its nature for the requirements of the Vine; yet by top-dressings and copious supplies of water fairly good crops of Grapes are obtained. These unsuitable Vine borders would doubtless be renewed and fresh Vines be planted in proper soil were it not that Sir Henry's new and extensive Devonshire garden is receiving primary attention. The Peach trees in this range are exceedingly clean and healthy, and have perfected satisfactory crops of fruit. Pure water has been relied on in keeping the red spider out of these houses, and it has succeeded notwithstanding the great heat of the summer and the exceptional lightness of the soil. The Pines in this range of glass are succession plants looking well. In the pinery are collections of *Phalænopses*, *Calanthes*, *Phaiuses*, an *Amorphophallus* with a bulb nearly 2 feet in diameter, *Vanilla* overhead, and *Stephanotis* on the back wall. On the back wall of the early vinery *Shaddocks* are grown, and a good crop of fine fruit is now being perfected. The outside border at the front of these houses has throughout the summer been exceedingly gay with *Lothian Stocks*, which are amongst the finest and sweetest of all spring and summer garden flowers. The front wall of this border next the walk is covered with a close compact-growing Ivy, as also is the low wall of the grand range on the opposite side of the walk. These houses are heated by a large Trentham boiler, which is connected with more than a mile of piping and does its work effectively.

Further back and in a walled enclosure are other ranges of glass. There is a pinery 50 feet in length in two divisions, the plants in one compartment nearly all showing fine fruit, some being nearly ripe, and the winter's supply of Pine Apples is amply provided for. It is in this house where the remarkable hedge of *Euphorbia jacquiniæflora* is growing at the back of the Pines, and which will in due time produce a cart-load of brilliant sprays. On the curbs and front stages are grown table plants in most of the fashionable kinds, such as *Crotons*, &c., and a fine stock of the lovely *Caladium argyrites*. Here also is a plant in remarkable colour of the variegated Pine, *Ananassa sativa variegata*, the leaves being suffused with deep pink. In this house also are grown in large pots Cucumbers for the winter supply.

Another range of similar dimensions is devoted principally



to Melon-growing and propagating. The back wall of the propagating house is covered with *Bougainvillea glabra*, which is found to be of great value for cutting; and on the back walls of the Melon houses are trained several plants of *Plumbago rosea*. This is most beautiful when in flower, and the plants continue flowering over a long period, but unfortunately when cut the beauty of the flowers is extremely transient. The Melons are trained on trellises near the glass, the plants being planted near the front, about 18 inches apart, and each trained to the top of the house and confined to a single stem. The crop has been very large, and there are a great number of fruits still to ripen. Only two varieties are grown: Conqueror of Europe, an oval-shaped handsomely-netted white-fleshed fruit of rich flavour; and a round-fruited variety—Ollerhead's Hybrid—which is the result of a cross between the two capital varieties Golden Gem and Colston Basset. Besides being of superior quality, this variety possesses the property which Mr. Abbey suggested to be so desirable, of being a continuous cropper. The same plants have produced a supply of fruit from the earliest period of the season until the present time, and even now there are fruits of almost all sizes and swelling freely. Added to its external productiveness it is of high quality, and is unquestionably a variety of great merit and usefulness. In the front of these ranges of houses are other long, heated, brick pits for plant-growing, and which are now filled with a stock comprising *Poinsettias*, *Clerodendron fallax*, *Centropogons*, *Thysacanthuses*, *Eupatoriums*, *Goldfussias*, &c.

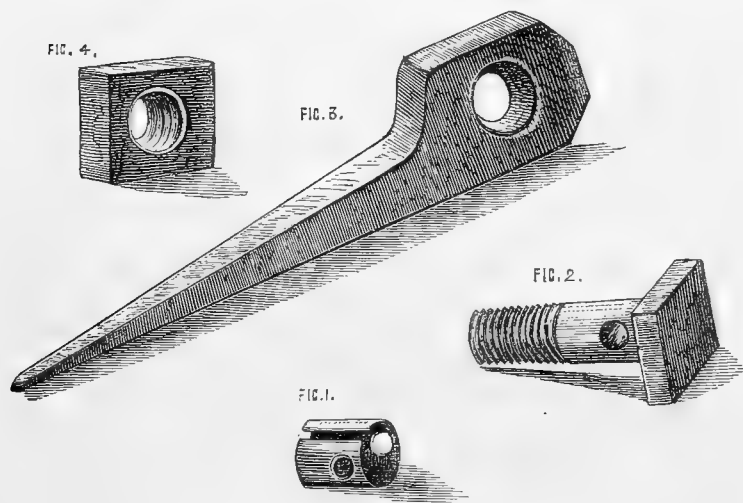


Fig. 47.—Ollerhead's wire-straining requisites.

Cucumbers and Melons are also grown in dung frames in the frameyard.

The kitchen garden remains to be noticed. It is less than two acres in extent, and is surrounded by brick walls. The south wall is especially noticeable by the fine crop of Peaches and Nectarines, and the clean and healthy appearance of the trees. Not a sign of red spider is to be seen. The natural antidote of red spider is considered by Mr. Ollerhead to be a vigorous growth. The trees are old and were once weakly, but they are now strong, and the fruit resembles that from young trees. This is the result of bold treatment. The soil was taken out of the border, and the roots cut off at about 4 feet from the wall; not lifting the trees, but chopping the soil down at that distance from the wall and replacing it with richer and stronger compost. Into this fresh roots penetrated, and the old trees became as it were young again. A border planted with Pears and Plums was subjected to similar treatment and with the same good results, and other borders are waiting their turns of being dealt with in the same effectual manner. The kitchen-garden crops are ample and healthy, thanks to deep trenching and manure water. Besides the crops usually found in gardens *Dioscorea Batatas* is cultivated rather extensively, the stems being trained up sticks similarly to Scarlet Runners. On one of the borders a valuable batch of Tea Roses is growing which were raised from cuttings of young shoots struck in heat in the spring—the best and quickest of all modes of raising Tea Roses, at least so says Mr. Ollerhead, and certainly his plants are in excellent condition.

On the borders are young fruit trees in different forms in course of preparation for final planting; and on the sides of the walks are fifteen hundred pots of Strawberries for forcing, the favourite varieties being Sir Joseph Paxton and Keens' Seedling.

In another garden vegetables are also grown and an extensive collection of fruit trees. On the sides of the walks are horizontal cordons, the wires for which are strained on a simple and effectual plan devised by Mr. Ollerhead. This mode of wire-straining is so good and so easy of being adopted by all who care to do so that a few particulars relating to it are herewith given.

Secure one end of a wire to a staple which is driven into a wall or post; at the opposite end, and at any required distance, drive firmly in another staple, similar to No. 3 (fig. 47), the projecting shoulders of the staples facing the line of wire. After drawing the wire as tightly as possible thread it through as many studs as are required to support it at the proper distance from the wall or ground. Next place the collar No. 1 on the bolt No. 2, and place it in the socket of No. 3, screwing on with the fingers the nut No. 4; now pass the end of the wire through the hole in the collar and bolt, and after pulling it as tightly as possible with the aid of pincers sever the wire almost close to the bolt, and just turn the end back. There is no fear of its slipping back through the hole, for the loose collar acts as a vice. Now with a screw key—holding the nut with one hand, and a spanner turning the bolt with the other—the wire can be tightened even to the breaking point, or until the staples are pulled from their places; in fact, tighten as one will, there can be no turning-back of the bolt and no slipping of the wire, for as the bolt is turned one way the loose collar binds in the opposite direction, securing the wire at any given point of tension. The loose collar also acts as a fulcrum between the head of the bolt and the shoulder of the staple. It is the loose collar which constitutes the excellence of the system. Before adopting the collar, either the bolt turned back (unscrewed) or the wire was cut at the edge of the hole, but now neither one nor the other of these drawbacks can possibly occur. The collar is made of a strip of sheet iron, and is not welded. As the little requisites are figured their full size for ordinary wire, it is plain that they can be made by any blacksmith, and the work for fixing wire in large or small quantities for any gardening purpose becomes a work of the greatest ease. The system is successfully adopted at Wimbledon, and will be carried out on a large scale in Sir Henry Peck's new Devonshire

garden, which is being formed under the direction of Mr. Marnock. Mr. Ollerhead places this system of wire-straining at the disposal of the public.

The gardens at Wimbledon House are evidently in the possession of a liberal owner (the gardener's cottage and young men's room are models of their kind), and are managed by an able gardener.—J. W.

#### EARLY APPLES.

ON page 307, in the account of early Apples, the following passage occurs:—"Can it be the fact that an Apple so excellent as Irish Peach is not in general cultivation?" It is a fact, so far as I am able to judge, that this Apple is not in general cultivation. There can be no question about the merits of the Irish Peach Apple as an early variety—in my estimation it has the pre-eminence. It is very little known in this locality; only in two instances have I seen it within the last twenty years, once as a standard in a large orchard bearing fine fruit ready for table, and as early as the White Juneating and Early Red Margaret; the other on a south wall on limestone, and producing magnificent fruit. Too much cannot be said in favour of what appears to be a neglected kind of early Apple. Our early Apples have long been in the background, and I am glad to see that they are now receiving the attention which they merit.

I trust we shall hear of other pomological societies being formed besides that of Woolhope, where ideas may be inter-

changed and the nomenclature of our fruits be corrected; for in regard to Apples we are sadly deficient in the question of names. In some parts of Yorkshire there is an early variety known as Bertle and Nicholson's Sweet Apple, probably only a local name. The fruit is in use about the end of June, and is much prized in the haytime. The tree is a free grower, attaining a good size, and is a great bearer. The fruit resembles a moderate-sized Keswick Codlin. Can any of the readers of the Journal furnish any information respecting it?—NORTH YORK.

### ROSES AT LEEK.

SEEING an article in the Journal entitled "Roses for a Small Collection," I felt tempted to send you some account of the difficulties under which we have to cultivate Roses here, and the sorts which do best. We are about 2400 feet above sea level, and have no shelter from east winds. We live, if we may infer from whence issues all the Rose lore, outside the zone of a Rose climate, and I do not remember ever seeing an article written on Roses north of us. Nothing but a deep love of the Rose, coupled with dogged perseverance, and I may modestly say a little knowledge, would enable us to succeed as satisfactorily as we do, for notwithstanding these difficulties we should no doubt surprise some of our more favoured Rose-growing friends were they to pay a visit to our show a little after the middle of July. We dare not fix our date earlier. We did once or twice and had to alter it. Some of our friends may recollect what Mr. Camm said in the Journal. Comparing the Leek with the Hereford amateurs, he said the latter "were nowhere," an opinion which was encouraging to me for one. May to us is the most dreaded month in the whole year. I do not know whether Tom Moore says anything about "the lovely month of May," but I think he does not, as he did not live far from us, and would know better; and so, indeed, would those gentlemen who write so delightfully about it if they were to spend the month of May in Leek.

I will now proceed to give you a list, in the order of merit, of those Roses which do best here, and which can be depended upon, not disappointing let the season be ever so unfavourable:—Charles Lefebvre, Baronne de Rothschild, Louis Van Houtte, Marie Baumann, Alfred Colomb, Pierre Notting, Madame Victor Verdier, Général Jacqueminot, Sénateur Vaisse, Duke of Edinburgh, Dr. Andry, Mons. Boncenne, La France, Dupuy Jamin, Madame C. Crapet, Countess of Oxford, Maurice Bernardin, Marquise de Castellane, Etienne Levet, Prince Camille de Rohan, Reynolds Hole, Annie Wood, Marguerite Dombrain, and Felix Genero.

We have a few other varieties which occasionally give us good blooms, but they are few. Madame Lacharme has been beautiful the past summer, the only season I have been able to bloom it out of doors; Capitaine Christy has bloomed very freely, but has been flat and ragged; Monsieur François Michelin, which writers in the Journal extol so much, seems too tender here, and I have not yet seen a good bloom. Many others I could name of whose beauty we can only hear through your pages.—S. EXRE, *Leek*.

### TOMATOES AND THE POTATO DISEASE.

YOUR correspondent, A. Boyle (page 305), appears to open up quite a new question in connection with the remarks I made on diseased Tomatoes in my communication on the culture of this esculent. Although I cannot as yet fall in with your correspondent's views in their entirety, I think it a question that is open to discussion, which will ventilate an important subject.

I cannot quite call to memory the year I had numbers of Tomatoes diseased, but think it must have been either 1873 or 1874, and to the best of my recollection no Potatoes were growing near them at the time they were in fruit. The very early Potatoes may have been grown on the same border, but would have been dug long before the Tomatoes became diseased. If this disease is analogous to the Potato disease, it is probably more or less hereditary to the *Solanum* family. It is somewhat singular that the disease does not put in an appearance until the fruit is almost matured, so that I rather think that the Tomato was rendered liable to the disease by an excessive degree of cold and wet when they require an extra effort and more of warmth to perfect the fruit. My Tomatoes were very late the year they were diseased, which apparently is the case with your correspondent's.

I have not seen or heard of many cases of either Potato or

Tomato disease this season. I shall be glad to hear what others of the readers of the Journal think of Tomatoes "taking the true Potato disease from neighbouring Potatoes whenever there is wet weather."—J. W. MOORMAN.

### WINDOW BOXES IN WINTER.

WINDOW BOXES which have been gay during the summer with Geraniums and other tender plants are now losing much of their beauty, and it will soon be necessary to clear the plants out altogether. A good many people are in the habit of growing plants in window boxes throughout the summer, and allowing the boxes to remain empty during the winter-half of the year. But this is not a very enjoyable system of window gardening, as during the winter, when everything outside is desolate, is the very time when fresh cheerful-looking plants about the window are most appreciated. Of course, bright flowers cannot be had in any great quantity from now onwards for many months, but there are many hardy, fine-foliaged, and herbaceous plants which can be used with as much effect as any flowers.

As soon as the summer plants have decayed the box should be taken down and the whole of the contents emptied out, and after placing a few bits of any rough material in the bottom the box should be refilled with fresh material. Window plants do not generally grow much in winter, and it does not matter if the soil is not very rich. In towns where it is difficult to obtain good soil, or soil of any sort, road scrapings do very well to fill the boxes with. The common Ivy, or the finer-coloured variegated sorts, are amongst the best plants for placing around the edges of the boxes, as they are always fresh to look at, and their habit is good for drooping over the sides. As the outside is often the only part which it is desired to drape, it is a good arrangement to do it with Ivy and plant the edge facing into the room with some of the rosette-formed *Sempervivums*, such as *S. tectorum*, *S. californicum*, and such-like common yet nevertheless pretty varieties. The centre of the box should be planted with dwarf shrubs, such as little variegated *Aucubas*, *Thujas*, *Retinosporas*, or any other kind of bush that is dwarf, compact, and ornamental in growth.

In sheltered positions where frost seldom reaches, some of the more tender plants may be placed in boxes, and amongst these there are none better than the berry-bearing *Solanums* of the *capsicastrum* type. These are all plants which may be bought cheap from any market grower or nurseryman. Boxes can also be filled with flowering plants, but it is best to mix these with the evergreens. The *Hellebores* are exceedingly useful in this way; a few strong roots of them planted here and there in a box flower during November, December, and January, when there are little else in bloom. As a sweet-scented flower in spring, a few bits of *Daphne cneorum* are always much prized, as smelling so sweetly. Wallflowers may also be included amongst the same class, as they come in very well before the summer-flowering subjects are placed outside.

Bulbs should always be extensively used in filling winter window-boxes. Crocuses and Snowdrops should be planted near the edge, and Hyacinths and Tulips may be mixed in the centre. These should not be used alone, but mixed-in with the other plants. Crowding must be avoided, but a good quantity of bulbs may always be put in without doing this. The bulbs should be put in at the same time as the other plants. All they require is to be pushed in about 1 inch below the soil. Narcissi are fragrant, but they generally become too straggly to look well in boxes.—AMATEUR.

### BESTWOOD,

#### THE SEAT OF THE DUKE OF ST. ALBAN'S.

BESTWOOD is one of the few places of horticultural note within easy walking distance of the town of Nottingham. Everything about the place is comparatively new. The building of the mansion was commenced in 1862 and finished in 1865, so it has few historic associations, excepting that it stands on the spot where a favourite hunting lodge of Edward III. stood. The house is a substantial brick erection, and commands extensive views of the surrounding country. The pleasure grounds, which lie principally on the south-east and west sides of the house, are very tastefully laid out, and many choice *Coniferae* are planted in groups and dotted here and there on the lawns. *Wellingtonias* do well here in sheltered positions, but in exposed situations they become stunted in growth and one-sided with the wind. There are also some handsome

specimens of the *Cedrus Deodara*, which is so becoming on grass. *Cedrus atlantica* is also growing freely, and this is found to do well in every position. In some of the shrubby beds the Pampas Grass is growing most luxuriantly, and this is the more surprising as the Pampas is generally supposed to be very partial to a moist situation, while here it is the very reverse of this, as it is growing on light sandy mounds.

The flower garden is all within sight of the principal windows. It is not extensive, but is tastefully designed and effective both in its character and the style in which it is planted. Clematises, especially *C. Jackmannii*, were exceedingly showy, and few flowering plants are more attractive in July, August, and September. There are many different kinds of climbers trained about the lower portion of the house, the beautiful variegated-leaved Ives and the coral-berried *Cotoneasters* being very conspicuous. The conservatory, which is attached to the west wing of the mansion, is a very spacious building, being 102 feet

long and 26 feet wide, with a centre dome 40 feet high. It was erected by Messenger of Loughborough, and has only been finished about two years. Most of the plants in the interior are planted out in beds, and the best of the specimens consist of Musas of the ensete species, two enormous-sized plants, having only been turned out of their pots while quite small last year; *Dicksonias* in splendid condition, *Camellias*, *Palms* of the *Seaforthia*, *Latania*, and *Areca* sorts, *Phormiums*, *Ficuses*, *Dracanas*, &c. Most of these are planted back from the centre path, and the front along the edges is kept gay with dwarf flowering plants. The roof is well draped with ornamental climbers, the *Tacsonias*, the old *Cotcea scandens variegata*, *Plumbago capensis*, *Bougainvilleas*, and *Lapagerias* being a few of the finest.

The kitchen garden and fruit houses lie in a northern direction from the mansion, and about 500 or 600 yards distant from it. They are reached by a well-kept gravel walk, which

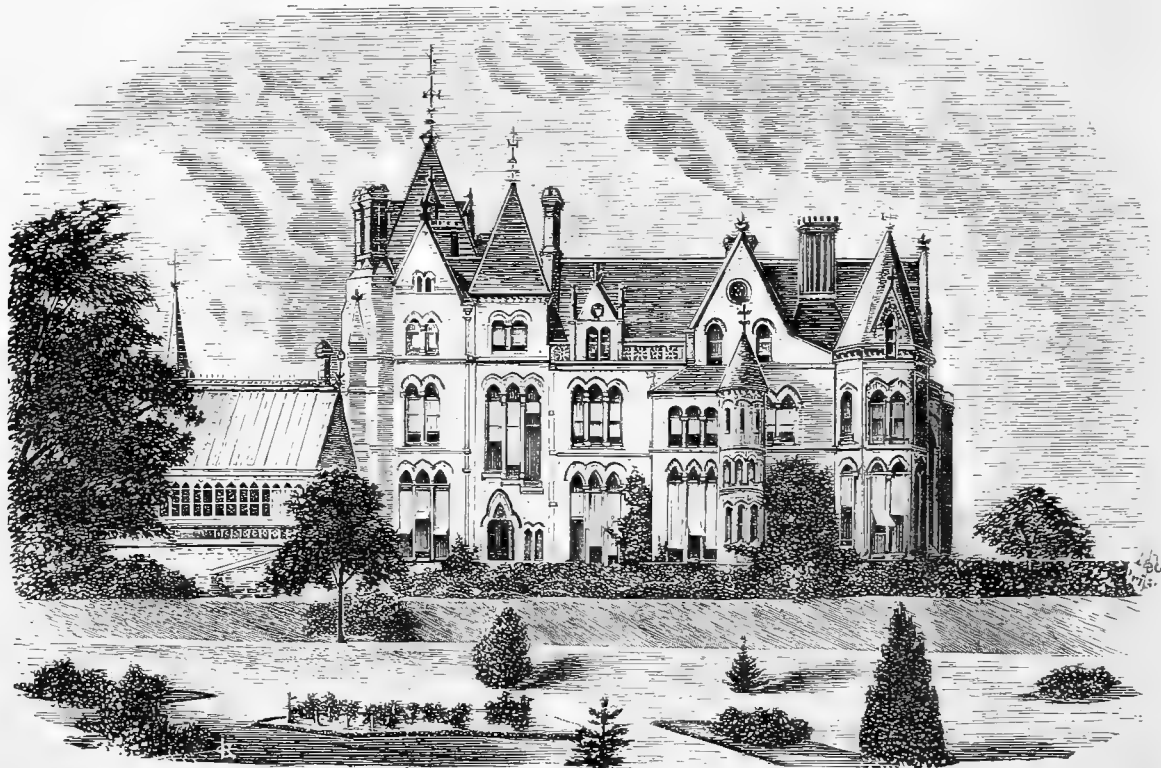


FIG. 48.—BESTWOOD LODGE.

runs through a young plantation that is chiefly planted with Larch and Scotch Pines. There are a good many young plantations of this kind, planted both for screen and shelter. But the rabbits make sad havoc among the Scotch Pines; yet it is found they do not interfere with the Corsican variety (*P. Laricio*), and this kind is now being substituted for the Scotch. There is a front range of glass houses along the whole width of the kitchen garden. The width of the range is 16 feet, and it is divided into a number of 33-foot lengths, and the style of the roof is three-quarters span. Beginning at the west end, the first house in the range is planted with Royal George Peaches and Elruge Nectarines. The second division is also planted with the same fruits, with the addition of the Noblesse Peach. The trees are planted in the front and trained against a half-circular trellis, and there are others against the back wall. The Noblesse is found to be fine in flavour but rather uncertain of bearing good crops annually. There is a variety named Chancellor in the first house, which must not be forgotten. Mr. Edmonds, the gardener, says it is the most certain bearer he has ever seen, as it never misses a splendid crop of superb fruit. This is a Peach seldom met with, indeed I am of opinion that few know it. I find it described in Dr. Hogg's "Fruit Manual" as follows:—Fruit large, oval, pale yellow, dark crimson next the sun. Flesh free, pale yellow, very deep red at the stone, sugary, rich, and vinous."

The borders are made with the natural soil of the locality, which is a very light sandy loam, with the addition of a little manure. There was a splendid crop on every one of the trees this season, and this is the case every year, the fruit being much above the average in size. During the time it is swelling the borders are supplied with large quantities of cow-dung water, and just after the fruit is formed the entire surface of the border is sprinkled over with a good dose of salt, which is watered into the soil, and Mr. Edmonds says he finds it to be one of the best manures that can be applied to Peaches, and the enormous size of the fruit proves his assertion to be correct.

The next division is planted as a vinery with Lady Downes's, Black Alicante, and Trebbiano. The latter is considered to be a superior late white Grape when well ripened, but it is found to take a great deal of heat to accomplish this properly. There was a fine crop in this house. The next house in the range is the centre one, and it is erected in the form of span-roofed greenhouse, running north and south, and therefore projecting from the others. It was well filled with *Geraniums*, *Liliums*, and other softwooded plants, which render the greenhouse attractive in summer. The north end of the house is a stone wall with climbers growing against it, *Heliotropes* being amongst the principal, as yielding sweetly-scented flowers nearly all the year round when planted out, and the flowers

are much valued in a cut state. *Acacia lophantha* is another plant grown as a climber, here its graceful leaves being found to form an excellent substitute for Fern fronds in the flower vases. Proceeding onwards through the greenhouse we come to an early Hamburg house. The fruit being nearly all out I can only remark on the highly promising wood for next year's crop; but more can be said of the next division, which is planted with Muscat of Alexandria. The bunches here were models in form, their average weight running from 3 lbs. to 5 lbs., and the colour of the berries was an exquisite golden amber. I have not seen finer Muscat fruit this season, the finish being exceedingly perfect in every respect. The end division is planted with Black Alicante, Lady Downe's, Mrs. Pince, and Barbarossa, all bearing excellent crops. Complaints are not unfrequently heard of Barbarossa being shy in showing fruit. It was the same here for the first two years after it was planted, but ever since it became what may be termed established it has never failed to show many more bunches than were wanted. The Alicantes in this house were particularly fine, both berries and bunches being above the average in size, and the colour and bloom very perfect.

Crossing a walk from this house there is a lean-to stove against the opposite wall. This structure is filled with a very choice and healthy lot of Ferns, fine-foliaged plants, and all other subjects generally found in a well-managed stove. As in most places of any great extent, there are ranges of forcing houses and pits on the outside of the garden wall. Pines are well grown in one of these houses, the old Queen being the variety chiefly cultivated. Cucumbers are also grown both summer and winter. Telegraph is the favourite variety at all seasons. A large quantity of small stove and other plants for the house or room decoration are also grown here. Melons are cultivated in low pits, Colston Basset being preferred before any other sort. In the reserve ground there were large quantities of plants growing for winter decoration, such as *Chrysanthemums*, *Salvias*, &c. There were also many *Solanums* planted out in a border. These are raised from seed in spring, and they bear abundance of their ornamental berries in autumn. Strawberries are forced in considerable numbers. Keen's Seedling is the variety used for supplying the earliest fruit in March, and President follows further on.

The wall which surrounds the kitchen garden is of the most substantial description, and it is well covered with finely trained fruit trees. Peaches do exceedingly well on a southern aspect; and although Royal George does best, Noblesse, Bellegarde, and Barrington always furnish good crops. Prince of Wales has been one of the best Plums this year, and in a general way Green Gage is the most certain cropper. The Purple Gage also does well here. Its flavour is similar to the green one, and on this account it is well worth growing as a dessert fruit. As in many other cases the fruit crop in general is much below the average here this season, Lord Suffield and Cox's Orange Pippin being the only varieties carrying anything like a full crop of Apples. The kitchen garden extends to some six or seven acres, and is replete with all the kinds of vegetables belonging to this department. Asparagus, Seakale, and such like are largely forced throughout the winter. There was a large quarter planted with Veitch's Autumn Giant Cauliflower; and here, as everywhere else, nothing can approach it as a Cauliflower, its fine large white heads being cut out of doors in excellent condition up to Christmas, when Snow's White Broccoli comes in. The edges of the principal walks in the kitchen garden are planted as ribbon borders, and high-class culture and good order is everywhere visible, which is alike creditable to Mr. Edmonds and his noble employer, whose taste and interest in horticulture is worthily exemplified in many ways about Bestwood.—M.

#### VALLOTA PURPUREA AS A BEDDING PLANT.

THERE are a great number of novelties which adorn the flower garden, but I am not acquainted with any equal to the *Vallota purpurea*. To appreciate this gem it must be seen planted out, and I have proved this plant to be one of decided merit and well deserving a place in every flower garden.

We had one small bed which contained twelve clumps of bulbs, and being anxious to increase the plants I took the bulbs up on the 1st of March of this year, and carefully separated each clump into three parts, making thirty-six plants, with which I planted two beds, using a composition of two parts loam, one part decayed dung, and the remaining part of leaf soil and coarse sand thoroughly mixed together. I placed

some sand round each plant, and covered the bulbs with the soil above mentioned to the depth of 2 inches, finishing with a slight covering of sand on the surface. The result has been all one could expect. The plants have been a blaze of bloom for the last six weeks, and there are now ninety spikes of perfect flowers on each bed.

The foliage is of a dark green colour and quite ornamental in itself. It dies to the surface in November, and makes its appearance again the following April. Those beds have been much admired by all who have seen them at Muckcross, Co. Kerry, Ireland.—A. CAMPBELL.

#### MILTONIA CUNEATA.

THE *Miltonias* constitute a genus of handsome Orchids. The name was given in honour of Earl Fitzwilliam, who was an ardent admirer of plants of this nature. They are mostly natives of Brazil, and consequently require a warm stove tem-



Fig. 49.—*Miltonia cuneata*.

perature, especially during the season of growth. If given heat and a moist atmosphere few Orchids grow more freely or flower more profusely, and their richly coloured flowers are admirable for cutting and the furnishing of vases, &c. The plants will grow either in baskets or in pots; if in the latter it is necessary that they be potted very high—that is, the pots should be nearly filled with crocks; and the material, very fibrous peat, sphagnum, and charcoal, should be made to form a cone above the rim of the pot. The creeping stems from which the pseudobulbs grow should be pegged to the surface of the compost with small hooked pegs, and with good cultivation the plants will increase in size rapidly. If grown in baskets the plants require much the same treatment as Stanhopeas as to heat, moisture, and rest. The species vary considerably in the size and colour of their flowers, but all are attractive and worthy of culture. *M. spectabilis* is white and violet, and is, as its name implies, very showy, as also are its darker varieties *atropurpurea* and *colorata*. *M. candida* has a white lip and yellow and brown sepals, while *M. cuneata*, the wedge-lipped *Miltonia*, is yellow and purple. The plants being epiphytal grow perhaps best in baskets, and will flourish in



any plant stove where the summer temperature ranges from 60° to 90°, and the winter temperature 55° to 60°.

### SCUTELLARIA MOCINIANA.

In late summer and autumn few plants in the stove are more attractive than this, and none are of easier culture. It is an erect-stemmed herb, with deep green, lanceolate acuminate, indistinctly toothed leaves, and numerous large, erect, slightly curved, tubular flowers in terminal crowded racemes of a bright scarlet colour, with the inside of the lip yellow, and, enduring several days, is very useful for cutting and decorative purposes. The plant attains to a height of 12 to 15 inches, or rather is best kept as dwarf as possible, as, like many others, it is spoiled when its lower leaves are lost. To keep it dwarf it requires to be kept in a light position and at a moderate distance from the glass, though my plants are 3 or more feet from it.

Cuttings of the young growths—two joints and the growing point—inserted around the sides of a 4-inch pot, three or five in a pot, in early April, strike root freely in bottom heat and a close, moist, shaded atmosphere, using sandy soil. When rooted they may be inured to light and air by degrees and withdrawn from the bottom heat, removing to the stove when hardened off. When the pots are filled with roots shift into 6 or 7-inch pots if three in a pot, or if five to 8-inch pots, draining moderately but efficiently, using a compost of turfy loam three parts and one-third leaf soil, with a free admixture of silver sand. They require to be well supplied with water, with a moist but well-ventilated atmosphere, being sprinkled overhead morning and evening. After the middle of June they will do as well or better in a cold pit, kept of course at a stove temperature by early closing, and in this position they are the better if slightly shaded in the hottest part of the day in very bright hot weather. The plants may be removed to the stove early in September. Each shoot will give a terminal head of bloom, very effective as bright scarlet flowers are in artificial light.

After flowering the plants should be kept rather dry over the winter, but the dryness is to be that of an herbaceous plant, and not the dryness accorded bulbs and deciduous ligneous plants, as compared with which they require to be moist. In March the shoots may be cut down to two joints, and the plants be kept rather dry until fresh shoots are made an inch or two long, and then repotting and some disrooting must be done, removing the old soil, repotting in the same size of pot, and in June transferring to a larger pot or kept in the same, feeding with weak liquid manure. It requires no stakes, being stiff in growth, and yet in too much heat it grows leggy, and may then require stakes. The shoots should not be stopped, at least not after May, as the flowers are produced by the points of the shoots.

Of such decorative value and so easy of culture is this plant that it should be grown by everybody having a cool stove or warm greenhouse, succeeding admirably in an intermediate house.—G. A.

### GREASY COAT APPLE.

I AM inclined to think that the Apple described by "J., Lincolnshire," on page 298, and known by him as Transparent Codlin, is identical with my Greasy Coat. I believe it is as he describes, conical, and I think somewhat five-sided, but it is seven years since I saw any, so my view is rather a distant one. The principal difference between us is in the colour; I never saw it flushed, but occasionally striped with red. By the way, I have only seen it in Lincolnshire. If not known generally I can only say it ought to be. Could not "J., Lincolnshire," supply grafts at the proper season?—J. J., Lancashire.

### HORTICULTURAL CLUB.

THERE was a very full meeting of the members of the Club at their usual monthly dinner on Wednesday the 5th inst. After dinner an interesting discussion took place on the plan proposed by Mr. George F. Wilson, of adding a large number of guinea subscribers to the Royal Horticultural Society when the separation takes place between it and the Commissioners of 1851.

Bunches of Venn's Black Muscat and Standish's Ascot Citronelle were submitted to the members. The former was pronounced not to be the same as Muscat Hamburg, as has

been asserted; and the latter pronounced a most delicious Grape, especially deserving of cultivation, as it can be grown where the Black Hamburg succeeds.

Samples of Comte de Lamy, a fine but not sufficiently known October Pear, were submitted, and it, too, was pronounced worthy of more general cultivation, the tree being a most certain bearer and the fruit of delicious flavour.

Messrs. G. F. Wilson of Heatherbank, Weybridge, F. Bell of Norwich, and George Jackman of Woking, were admitted members.

### MR. PEARSON'S GERANIUMS.

In answer to "J. H." on page 298. I have not yet tried Brutus or Mulberry. Mrs. W. Brown has been too coarse in growth with me this year, but I think most of the plants were spring-struck instead of being struck in the autumn, and consequently were not well matured or pinched-back; for one great merit which properly prepared plants have over the ordinary run of bedding-out plants wintered in cold frames or hastily struck in the spring, is that the growth is so much better ripened and matured, that instead of merely making growth when first put out they immediately begin flowering, and this habit of blooming once established they seldom make coarse or rank growth afterwards. I have noticed also that many kinds of Geraniums grow less rampant year by year. The more recently a plant has been raised from seed the more likely it is to run into coarse growth. But this is a digression.

Charles Smith is a very fine crimson scarlet, and is one which I was going to mention as very promising, but I had not enough plants of it this year to bed it, and it seems to me to be almost identical with the Rev. J. F. Atkinson, just as Edward Sutton and Sir James Outram are so nearly alike that for all practical purposes they might be planted in the same bed together. I have not very much more to add about bedding plants for this year. In a trial bed of twelve sorts, planted round the outside of a large oval bed, there are some which are likely to be very good. Mrs. Huish is of the Lord Palmerston type of colour, with very large trusses and a free bloomer, a magenta crimson with a violet tinge on the petals. Lady Stanhope is somewhat of the colour of the old Trentham Rose, *alias* Lady Middleton, but deeper, with large trusses and erect growth of flower stems. This has also made a first-rate pot plant, one which I exhibited when only a year and a half old, having made a very fine exhibition plant. Lucy Bosworth, a beautiful shade of soft pink, will do better as a pot plant than in beds, where it is very good in fine weather, but will not stand rain, but it is beautiful in pots. The same may be said, too, of Lady Byron, another pink, a rather deeper shade. Sir H. Stanhope, a fiery dark crimson (somewhat like Rev. J. F. Atkinson and Charles Smith), has done very well indeed; the form of the flower and the size would quite enlist for it the sympathies of the florist. The above are all of them raised by the late Mr. Pearson, as indeed I may say, with but few exceptions, are all the best Geraniums I have now in my garden.

Many of the more recent introductions, as John Gibbons, Miss Strachan (salmon), and many others, while preserving their Nosegay type in size of trusses and profusion of flowers, have all the qualities of florist flowers in shape, size, and smoothness of pips, and possess the great advantage over the true florist type that the petals do not drop, like those of Jean Sisley and others, from hot sun. I noticed, especially one week during the very hot weather at the commencement of August, that the whole of the ground round the edge of the bed of Jean Sisley was covered with petals which had fallen from the flowers, while none hardly had fallen from the Hybrid Nosegays.

I will now conclude these remarks with again recommending Ageratum Countess of Stair as one of the best bedding plants I have yet seen, and a great improvement upon any other Ageratum; and also a Lobelia called Alpha, which I had sent to me on trial, and which has been exceedingly good. I believe it to be a cross between Little Gem and Speciosa, combining the habit of the two, making good foliage and growth as well as bloom. The colour is a bright deep blue, not so dark as Lustrous.—C. P. PEACH.

### GOLDEN CHAMPION GRAPE.

THIS finest of all Grapes has been a puzzle ever since Mr. Thomson first introduced it. I have been more fortunate than others; but this year proper precautions were not taken in

protecting the roots against rain. The consequence was, after a slight deluge the whole of the fine bunches excepting three were destroyed in a few days, the absorption of moisture being too rapid for the delicate skin of the berries. Immediately I observed the splitting I had the covering put on the border, but it was too late. It was the case of locking the stable after the steed had been stolen. I have referred to three bunches in which there was not a berry split or spotted; and although the accident alluded to occurred a month since, these bunches still hang on the Vine in fine condition, and will apparently hang as long as the bunches on the other Vines. The cause is this: I mentioned in an article some months since that I grew laterals and tied them to the old stem, having proved that these produce finer Grapes than those from spurs. It is on one of these laterals that the three bunches are now hanging, and the cause of their not being split or spotted is no doubt the abundance of leaves on this lateral exhaling the moisture as fast as it was absorbed.—OBSERVER.

### NEW BOOK.

*A Plain and Easy Account of British Fungi, with especial reference to the Esculent and Economic Species.* By M. C. COOKE, M.A., LL.D. Coloured Plates, &c. Hardwicke and Bogue, London.

This is the third edition, which tells that it is useful; and this extract from the preface epitomises its contents:—

"When it is remembered that at the present time scarcely less than four thousand species of Fungi are found to inhabit our islands, it must be conceded that a small volume like this can only pretend to serve as an introduction to more elaborate works. In one sense, however, the present volume may be regarded as ample, since it contains, as its main feature, observations on the edible and poisonous kinds, with the best advice which could be afforded for their discrimination."

The following note is of one of the most showy and highly useful of our native Fungi, but one that the ignorant avoid:—

"One would imagine from the name (*Lactarius deliciosus*) given to the reddish-orange Fungus found in almost every Fir plantation, that it would be a treasure to an epicure; and so indeed it is, if the testimony of Sir J. Smith is to be received, that "it really deserves its name, being the most delicious Mushroom known." A gentleman of our acquaintance says that whenever he finds them he considers himself possessed of the greatest treat which the fungoid world has to offer; but that, having made their virtues known to his neighbours, it is now but seldom that he has the good fortune to enjoy them."

### NOTES AND GLEANINGS.

We are informed that the seed stores, packing sheds, &c., of Mr. Dancer, market gardener and seed-grower at Fulham, were last week DESTROYED BY FIRE, and a considerable quantity of seed and Potatoes were consumed. The fire spread to the adjoining premises of Munster House and destroyed some stabling. The origin of the fire is not known.

— ONE of the finest of autumn-flowering border plants is *ANEMONE JAPONICA ALBA*. We have recently seen this plant in several gardens, and can only wonder that its number is not greatly increased. It is a plant which should be found everywhere, for its stateliness and purity render it attractive, and its hardiness and accommodating nature recommend it to all admirers of hardy border flowers. The plants continue a long time in beauty, and the flowers are extremely valuable for indoor decoration.

— MR. LOVEL, Weaverthorpe, York, writes as follows on DESTROYING WASPS' NESTS:—"When you know the wasps are all in the nest take a lighted fusee and some tobacco, place it in the nest as far down as possible, and the tobacco smoke will then suffocate the wasps. I have tried this system and found it to be very cheap and effective."

— AN extensive grower of fruits in Lincolnshire states that he was informed at the time of purchasing DOMINO APPLE ten years ago that it was "a seedling from Keswick Codlin, which it much resembles. It bears well, but is rather subject to mildew, and, like several of our best bush and pyramid trees, will soon kill itself if allowed to fruit too soon. This is a rock upon which thousands of miniature fruit trees are wrecked. I have tried the experiment of early fruiting, and have killed scores of trees. They were put into a hospital row, but, with very rare exceptions, they never recovered. Cox's Orange Pippin, the best of all dessert Apples, is very im-

patient of being transplanted; it, like Lord Burghley, is subject to canker and mildew. As a rule, the better the fruit the more liable to both. Beurré Superfin is the most difficult to move of any Pear that I know."

— IN the small but attractive conservatory of Mr. Brassey at Preston Hall we lately noticed a very fine specimen of *WITSENIA CORYMBOSA*. This is a very distinct and ornamental conservatory plant. It belongs to the natural order of Iridaceæ, and bears terminal clusters of blue Statice-like flowers, which remain a long time in beauty. As well by the attractive colour of its flowers and their great profusion, and also the singular growth of the plant, it is worthy of notice and of culture. Mr. Brassey's plant is a well-furnished specimen 3 to 4 feet in diameter.

— FOR imparting a distinct feature in the foliage of shrub-beries the SEA BUCKTHORN is a desirable low-growing deciduous tree worthy of notice. The colour of its foliage is quite dissimilar to that of any other hardy tree, and approaches the bluish tint of *Eucalyptus globulus*. The Sea Buckthorn (*Hippophae rhamnoides*) forms a bush-like tree 12 to 15 feet in height, and its slender foliage is very elegant. It is a conspicuous tree in the front belts of shrubberies. It is perfectly hardy, and grows freely in any common garden soil either on the seacoast or in the inland counties. Its singular name is derived from *hippos* a horse, and *phao* to destroy, in reference to the supposed poisonous nature of its seeds. When berries are desired both male and female plants must be planted, for the Sea Buckthorns are dioecious.

— WRITING in "The Gardener" on destroying the VINE MILDEW by a preparation discovered by Mr. Speed, Mr. W. Thomson of Clovenfords states—"I had a good opportunity when at Chatsworth recently of testing Mr. Speed's specific. Some pot Vines had borne early crops of Grapes, and were infested with mildew. I took the spray-distributor and applied a small portion of the liquid to a leaf that was covered with mildew, and it vanished in a moment. I then syringed the leaf, and came back in an hour and examined it with a glass. There was not a trace of the parasite to be seen, though its effects were visible on the leaf. I then tried another leaf, and did not wash the stuff off the leaf as before, and the result was exactly the same. During the three days I was at Chatsworth I repeated the experiment often, always with the same results; and when I left the leaves were still completely free from the parasite, and no way injured by the liquid. I certainly never saw a more successful remedy applied before, and Mr. Speed should either make the remedy known or place it within the reach of Grape-growers."

— THE extensive park surrounding Kedleston Hall, near Derby, abounds with many of the LARGEST TREES in the COUNTY. The Oaks especially are of extraordinary magnitude, and remind one very forcibly of the celebrated giants on the Duke of Portland's domains at Welbeck, and those of Earl Manvers at Thoresby. Some of them are very old and have that half-leaved rugged appearance so picturesque and venerable-looking in park scenery. Others are in the most robust health, as will be readily conceived when we state that it is computed many of them contain as much as 1100 feet of sound timber.

— ONE of the American journals says that "it has puzzled many people to decide why the dark wood so highly valued for furniture should be called ROSEWOOD. Its colour certainly does not look much like a Rose, so we must look for some other reason. Upon asking we learn that when the tree is first cut the fresh wood possesses a very strong Rose-like fragrance, hence the name. There are half a dozen or more kinds of Rosewood trees. The varieties are found in South America and in the East Indies and neighbouring islands. Sometimes the trees grow so large that planks 4 feet broad and 10 feet in length can be cut from them. These broad planks are principally used to make the tops to pianofortes. When growing in the forest the Rosewood tree is remarkable for its beauty; but such is its value in manufactures as an ornamental wood, that some of the forests where it once grew abundantly now have scarcely a single specimen. In Madras the Government has prudently had great plantations of this tree set out in order to keep up the supply." The Rosewood is *Physocalymna floribunda*, and it is entitled to the specific name from the excessive number of its red flowers, which, when fully expanded, render it a splendid object.

— IT is known that the SEWAGE WATER OF PARIS is utilised for irrigation of the plain of Gennevilliers. Apropos of assertions that have often been made, that this would seriously

injure the health of the neighbouring population, the *Bulletin Français* has lately published some interesting facts. It was in 1868 that the method was brought into operation. In 1866 the population of Gennevilliers had reached the number of 2052 inhabitants. Dividing the series of years since then into two periods, it is found that the average annual mortality in the first period was fifty-two persons; in the second, forty-six. Not a great difference, indeed, but it is sufficient to prove that when the irrigations acquired their greatest extent the mortality did not increase, but rather diminished. Since 1872 there had been in the commune twenty-seven cases of intermittent fever, but all without exception have been in the neighbourhood of a lake into which the waters of the village flow, and on its north side. They are probably due to this lake, not to the irrigations. Again, when the sewage irrigation commenced, the hamlet of Gressillons, which is in the middle of the irrigated land, had fewer than forty inhabitants; it now numbers 327, and its sanitary state is excellent; there has not been a single case of intermittent fever. It may be added that the workmen employed in the irrigation live in the heart of this supposed centre of infection. There are thirty-five of them, and some have worked for eight years there, yet they all enjoy excellent health. The water of wells sunk in the plain of Gennevilliers is perfectly clear and limpid, though it is certain that it comes from infiltration of liquid which has not been absorbed by the plants or by the soil. This water, treated with permanganate of potash, has not been found to contain any organic matters.—(*World of Science*.)

### EXHIBITING POTATOES.

I AM not a disappointed exhibitor, as I did not compete in the classes at the Alexandra Palace Show; I have therefore the less hesitation in noticing the way in which many of the Potatoes were staged and the manner in which they were judged.

I went to the Show for the purpose of gathering information, such as would enable me on some future occasion to stage collections to the best advantage. I wished to know whether I should select tubers large or of medium size; also whether they should be simply washed, or whether they should be polished and buttered for the Judges' inspection. I went at some cost and distance, and I went hopefully, but I have returned perplexed and disappointed.

To begin with the dressing of the tubers. I am inclined to think that the Scotch polish found favour in the eyes of the Judges, and that had it not been for the gloss—the varnishing and burnishing which the tubers had received in the premier-prize collection, that they would not have won their position. I think so for this reason: By far the majority of on-lookers—and most of these competent gardeners—on being appealed to as to which collection was most suitable for the dinner table, considered that the medium-sized tubers of Mr. Pink were preferable to the large produce from Mr. Porter. On the score of appearance, however, the Scottish collection undoubtedly bore the palm.

Now there is as much difference between Potatoes which have been prepared by Scotch polish and others which have been simply washed, as there is between a pair of boots which have been oiled and another pair "shined" with the best "Day and Martin." I made several inquiries as to the mode adopted in polishing Potatoes. "Oh! it's the soil they are grown in," says one—he was a canny Scotchman. But others were less reticent, and from one who had assisted in polishing I gathered that the tubers after being well washed were smartly rubbed with a coarse cloth, are then doctored with new milk, and are again smoothed with the hand or some soft material. My informant also said that occasionally butter was used, but he regarded new milk as the best "Potato polish." Certain it is that many of the prize tubers had been operated upon with something besides pure water, and I can further say that after trying the recipe above given it produced the same appearance on the Potatoes as that borne by so many of the tubers at the Exhibition in question.

In thus polishing their produce the exhibitors infringed no rules, the only stipulation was that the tubers must be washed, and the polishers have the justification that the Judges in most instances awarded them the prizes. How far the practice is worthy of encouragement is another question. If it is legitimate to impart an artificial gloss by the application of a substance foreign to the nature of the Potato, is it not equally permissible to "dress" a flower, or add a tint to an Apple or Pear?

A short time ago I read that a fine collection of quilled Asters was disqualified because they had been dressed with flour, and I further read the opinion of a good authority that dressing of flowers is permissible by removing from them anything which marred their beauty, but to add anything to them is culpable and should not be tolerated by judges.

In the latest fashion of dressing Potatoes for exhibition it is clear that something is added to them, and that the "gloss" which "catches the eye" is produced artificially. Observe, I do not find fault with the Judges, and I am perfectly satisfied that their awards fell where they did, simply because no rule was infringed; but in future I cannot help thinking that for the sake of simplicity and uniformity it would be well that the tubers should simply be washed, and that no grease or polish should be added to them. Intending exhibitors would then know what to do; but at present they do not know how far polishing may extend, or whether suddenly and without notice it may be discountenanced by the Judges.

I should like to hear the opinions of some of the gentlemen who acted as Judges at the late Show, whether doctoring of the tubers should be prohibited or permitted.

Next, as to size of tubers. It is clear that a standard is necessary, for some judges award the palm to Potatoes which are beyond all doubt too large for any gentleman's table, while other judges allow correct table size to weigh considerably in their deliberations. It was impossible to gather from the awards at the Alexandra Show whether large or medium-sized tubers should be selected, because the Judges in some classes awarded the prizes to large, and others to comparatively small tubers. That much depends on the individual fancy of a judge is certain from the fact that the same exhibitor must stage—say, for the best dish of a given variety, one dish of large, another of medium size, and another of comparatively small tubers to "make sure of a place." Surely such a mode of guesswork is not satisfactory, and it cannot be regarded as impossible that those who give special attention to the showing and judging of Potatoes cannot make some definite provision that Potatoes to win must be of presentable size for placing on a well-furnished dinner table.

At present the standard of size is not in any way defined, and the awards at the great Show have only added to the general perplexity on this point. If the Judges were gentlemen's gardeners they must have known that they could not have placed many of the dishes which found favour in their eyes on their employers' tables. The question of size may be a difficult point to determine, but surely a man who has been sending Potatoes to table for, it may be, a quarter of a century, knows that a tuber which is large enough to fill a plate is not such as will do credit to his choice in the estimation of the guests at the table.

Unless Potatoes fulfil the conditions for which they are primarily cultivated they cannot, I think, be considered perfect. Prizes should only be awarded to perfect dishes, and we look to Potato exhibitions and judges to show us the standards of perfection, but hitherto we have looked in vain. Since the two great shows at the Alexandra Palace growers are more perplexed than ever; they do not know what sizes to select, and how far dressing is a virtue or a bane. These are questions worthy of consideration and discussion which may tend to assist both judges and exhibitors, and enlighten many.—A PUZZLED VISITOR.

### NOTES ON VILLA AND SUBURBAN GARDENING.

KITCHEN GARDEN.—See to the planting-out of Cabbages for spring use as fast as plants can be obtained, because the weather at present is so favourable for them to establish themselves. This is such a useful vegetable that it can hardly be planted out at the wrong time, and if plants are planted on good ground where they grow quickly they can be used in quite a young state; therefore the plants may be put out thickly now, say a foot apart in the rows, and this will allow of every other plant being taken out for winter use, leaving the rest to heart in the spring. Something depends upon the sorts used. If a large-growing sort is grown the plants must not be planted so closely together, but just so that they will be finally left at a regular distance sufficient to produce good-sized Cabbages. Those left in the seed bed and which are not wanted for filling-up during winter may be planted out in spring, and will be certain to be useful.

Lettuces must be planted out under walls and sheltered places as space can be provided, and another small bed of seed should be sown. The plants from this sowing may not all thrive, but when we consider that in the autumn and sometimes the early

part of the winter the weather is mild, there is a chance of saving some to make up for any deficiency in previous crops. Onions for pulling small should be thinned a little, but not so much as they are for summer growth: all that is expected being to procure sufficient for use in salads. Preparations must be made for storing all salad crops which are advanced in growth, for the mild weather will make the plants so tender that a sudden frost will cause them to decay; a dry and airy place will suit them well if they are taken up with a little earth to their roots and if they are not in any way injured by removal.

**FRUIT GARDEN.**—Let the ground where fruit trees are to be planted this autumn be drained and trenched, and if necessary have some fresh soil added; then the trees can be planted early, which is much better than deferring their planting till a later period. By planting early the roots can make a little progress this autumn, and the trees do the better for it during next summer. Root-pruning may be commenced very soon on all over-luxuriant or unfruitful trees; they will then make fresh roots to enable them to pass through the winter safely. New plantations of Currants and Gooseberries may be made, as well as Raspberries, as soon as ground can be made ready for them. This should be deeply trenched and well manured; Gooseberries and Raspberries require more manure than Currants to grow them fine. Gather and store all kinds of fruit as the weather will allow, and do it carefully, for though it is at all times necessary for fruit of fine quality to be gently handled, this year it is particularly so on account of its being scarce.

**FLOWER GARDEN.**—Beds and borders will now need frequent attention to keep them neat and clean, and a watch must be kept for all plants that turn yellow so that their stems may be cut down, marking the places so that the roots may be found when wanted. Hollyhocks must be cut down to within a few inches of the ground, and if strong and more are wanted the stools may be parted. They must be taken up and the earth carefully shaken from their roots, and the plants cut-up with as little mutilation as possible into as many pieces as are safe to grow. There must be a good heart to each, and all be planted in a store bed to attain strength before finally planting them where they are to flower, and if there are any young shoots cuttings may be now made of them and rooted one in a pot in gentle heat.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

Owing to the mild weather and recent rains weeds are growing apace. We have been digging vacant ground, and where the weeds were small turning them down underneath the surface. We have not yet lifted the crops of Carrots, Beet, Parsnips, &c., the weather being as yet so mild that nearly all crops are in full growth. The night temperature ranges about 50°, rising above 70° occasionally in the daytime. When frosts set in the roots will be stored during fine days. A good plan is to place a layer of roots and sand alternately in a cool shed, where the roots will keep well and are easily obtained in severe weather. All roots must be lifted with care, for if they are bruised or broken decay speedily begins. Some workmen are very careless in taking up roots, and are not careful to cut the leaves off just at the right place. They ought to be cut off close to the hard substance at the crown, but not into it.

In ordinary seasons now would be the time to lift and store Potatoes for winter use, but the haulm made a second growth after the drought; and even before the rains came long root-like growths were thrown out from the tubers, at the ends of which the second lot of roots were formed. This root-action was increased tenfold after the rains, and the haulm grew amazingly. This second lot of tubers are about the stage that the usual crop would have been in July or August, and the skin peels off as it would from young unripe Potatoes. It is a question whether such Potatoes would do for planting. Some persons who have had experience say they are good for the purpose, our own experience is against them. A celebrated writer on this very subject nearly fifty years ago advocates using unripe tubers for seed, as Potatoes allowed to become fully ripe are, he says, more subject to the disease called the curl, which is often very detrimental to the crops. Potatoes intended to keep late should also be lifted with much care, as each bruise will show a black mark when the Potatoes are used in the spring. The usual, and perhaps it is the best way to keep them through the winter, is to put them into a pit, or "clamp," as it is called in Essex. A shallow level basin is dug out of the ground, the Potatoes are carefully placed in it, and they are piled-up in the form of a cone or ridge; a quantity of dry clean straw is then laid over them, and above all a thickish coating of dry earth. It is best to put the tubers away in a dry state.

It is time to see that some of the earliest heads of Endive are blanched. This may be done by bringing all the outer leaves together over the centre of the plants and fastening them with a strip of matting. We have also used slates, simply placing

them flat down upon the plants. If any weeds grow up amongst the plants it is best to pull them out by hand, as the leaves of Endive spread so closely over the surface of the ground: and even with the Dutch hoe, unless the workman is very careful, particles of soil are introduced into the hearts of the plants. We have found strong plants of Lettuce put out in frames at this season come in very useful through the winter. The frames were placed on a south border and some fine soil put in, in which to plant the Lettuce. The plants were carefully lifted and had a good supply of fresh air, the lights being drawn off when the weather was fine.

### MELONS AND CUCUMBERS.

It is very good weather still for late Melons. The heat is easily kept up in houses, and there is sufficient warmth, even when the sun does not shine brightly, to allow plenty of ventilation by day when the fruit is ripening. The ventilators should be open a little, and other instructions be attended to as advised two weeks ago. We have seen cases of disease amongst Melons this year which might perhaps be accounted for by some peculiarity of the season. The excessive heat which set in all at once in July after a dull cold period seemed to have an unfavourable effect both on Melons and Cucumbers. Sudden changes tell upon the constitution of plants as well as on the human frame; and those who have charge of glass houses, especially those intended for forcing fruits, must be ever on the alert to, as far as they possibly can, mitigate the effects of sudden changes. When very hot weather has set in after a dull period we have syringed the glass with whiting and water, and thrown open all the ventilators, at the same time keeping up a good supply of atmospheric moisture. Then the houses ought not to be shut up so early nor so close. It is a rule with some gardeners to close the ventilators at certain hours, and this is often done without due regard to the state of the weather.

After thoroughly cleaning the woodwork and glass of the Cucumber house, and limewashing the walls, the plants have been put out in good soil, but not too rich. We would rather surface-dress the plants with rich dressings than overdo the soil with manure at planting-out time. Cucumbers require more heat than Melons. A low night temperature predisposes Cucumbers to disease; indeed, a celebrated grower told us the other day that he has held the terrible disease in check by simply keeping up a high temperature and forcing the plants to grow out of the malady. The disease was not destroyed, because as soon as the temperature was allowed to fall the gummy matter began to ooze out from the stems.

### ORCHARD HOUSE.

This has given us employment during the last week, carrying all the pot trees out of doors and taking the Chrysanthemums inside. This is a work of no little difficulty, as the house is roomy and lofty and the plants large in proportion. The fruit trees will have their pots plunged out of doors in fresh cocoanut fibre. This is the best material for plunging all sorts of hardy plants and trees which are exposed to the action of frost during the winter months. We plunge the trees to the rim of the pots at present, as they will probably require water for a few weeks yet. When the frost sets in a few inches of fibre will be placed over the pots, and they will thus be secured from injury until removed into the house early in January. At that time the roots will be found in an active state and ramifying abundantly into the fresh material.

### GREENHOUSE AND CONSERVATORY.

We do not care to have any hardwooded plants out of doors after this time, but the weather is so exceptionally mild that the plants are much better outside than under glass. However, there are no plants out now but Azaleas amongst flowering plants. These are always left out until the last, as we require them to flower as late as possible in the year. They are kept out to retard them, and no more artificial heat is applied than is absolutely necessary during winter when they are in the greenhouse. Red spider and thrips are equally destructive to Azaleas. If the thrips attack the plants during winter it is best to destroy the insects by fumigating with tobacco smoke. In the summer and autumn, when the plants can be syringed daily, these troublesome pests cannot do much injury. Some of the Boronias, Pimeleas, Statice, &c., if not carefully watched are sometimes irretrievably injured from the same cause. Plants may sometimes be seen with their leaves dropping off, while the puzzled cultivator wonders what can be the matter. Pimelea spectabilis is one of the most beautiful of the species, and it is worthy of being placed in the most select collection of greenhouse plants. At one time it was very popular as an exhibition plant, now it is seldom seen, though it is as easy of cultivation as any other plant. The fact is red spider is its desperate enemy, and in hot weather the plant must be syringed daily to destroy the insects. Statice Holfordii and S. profusa are distinct and most valuable plants for decorative purposes and also for exhibition. The last-named sort is the most free-flowering greenhouse plant we have, and may be had in flower all the year round; but if thrips are in the house they will surely find



it out. They lodge on the under side of the leaves, and do much mischief before they are observed sometimes. Fumigating the house two or three times at intervals of a few days is much the best way to eradicate them. Mildew is very prevalent amongst Heaths, Hedaromas, and many other plants, and it spreads at a very rapid rate when the plants are at a distance from the glass, or if the houses are not sufficiently ventilated. When the parasite has spread to a great extent over the plants, dusting with dry flowers of sulphur is not so effectual as mixing the sulphur in soft-soapy water, laying the plants on their sides and thoroughly syringing them. Perpetual Carnations have been removed from out of doors into the house. If the plants are left out much later than this the flower buds are injured and the flowers do not open well. The shoots snap off very easily; it is therefore necessary to carefully fasten them to sticks as they advance in growth.—J. DOUGLAS.

### TRADE CATALOGUES RECEIVED.

Hoopes Bros. & Thomas, Cherry Hill Nurseries, West Chester, Pa. U.S.A.—*Trade List of Ferns, Orchids, Miscellaneous Plants, Fruit Trees, &c.*

Joseph Schwartz, Rue du Repos, 43, à la Guillotière, Lyon, France.—*General Catalogue of Roses.*

T. Elcombe (late Elcombe Brothers), Spring Bridge, Ealing.—*Catalogue of Dutch and other Flower Roots.*

### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LIVERPOOL (Chrysanthemums). November 2nd. Mr. R. Wilson Ker, 6, Basnett Street, Church Street, Hon. Sec.

JERSEY (St. Helier's) (Chrysanthemums). November 8th. Col. H. Howell, Hon. Sec.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

BREXTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Gold-  
finch, Sec.

ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (J. S.).—Newton's "The Landscape Gardener," published by Messrs. Hardwicke.

ELECTION OF ROSES.—It was Mr. G. Paul, not Mr. W. Paul, who was intended at page 300.

CABBAGE PALM (T. G.).—There are ten species, and two of them are natives of the West Indies, *Arca oleracea* and *A. exilis*. The first-named is that which produces edible tops.

TULIP-GROWERS.—Mr. J. McMillin asks for their names, and catalogues of their Tulips.

ANEMONE (W. B. L.).—Honorine Jobert is only a complimentary name, bestowed to please the raiser's friend. We shall like to see your notes on annals.

SEEDLING APPLE (J. W. Wooler).—It is a good Apple, but not of remarkable merit; perhaps it may improve by keeping.

ROSE LOSING ITS BARK (Hampshire).—The probable cause is want of manure and water. The tree is *Acer platanoides*, Plane-like Maple.

LIST OF PEARS AND APPLES (Mrs. Owen Knox).—*Pears*: *baking*: Catillac, Dessert: Winter Nellie. *Apples*: Early Harvest, Irish Peach, Kerry Pippin, Orange Pippin, Scarlet Nonpareil, Court Pendu Plat, Mannington Pearmain, Golden Reinette, Margil, Lodgemore Nonpareil, Wellington, and Cox's Pomona. The two last named are kitchen Apples.

LIST OF DAHLIAS (Novice).—*White*: Mrs. Henshaw. *Blush*: Mrs. Eckford. *Primrose*: King of Primroses. *Orange or Golden Yellow*: Toison d'Or. *Lilac*: Mrs. Boston. *Crimson*: James Service. *Purple*: James Cocker. *Puce*: Ovid. *Maroon*: Thomas Goodwin. *Black*: High Sheriff. *Red*: Bob Ridley. *Scarlet*: Charles Backhouse.

SELECT CONIFERS FOR A TWO-ACRE PINETUM (A Constant Reader).—Of the *Piceas* take *lasiocarpa*, *Pinsapo*, *cephalonica*, *nobilis*, *Nordmanniana*, *punctata*, *grandis*, and *amarabilis*. *P. Webbiana* may answer in such a favourable situation as yours, and it is certainly worthy of a trial. We have several thriving young trees of it which we raised from seed brought from the Himalayas. Of *Pines*, take *Pinus austriaca*, *Laricio*, *pyrenaica*, *Benthamiana*, *insignis*, *macrocarpa*, *Cembra*, *ponderosa*, and *excelsa*. These are all distinct in appearance and form noble trees. *Cembra* is perhaps the most insignificant of them as a small tree, but it becomes most attractive and ornamental with age. If you can spare room for *sylvestris* it will prove quite worthy of it, for although so much planted in woods and belts, individual specimens are by no means so common as they should be. Next comes *Abies Douglasii*,

*canadensis*, *alba*, *excelsa*, and *Mertensiana*, with *Cedrus Libani*, *Deodara*, and *atlantica*; *Arctocarpus imbricatus*; *Cupressus macrocarpa*, *C. sempervirens*, *C. Lawsoniana*, with its varieties *viridis* and *gracilis*; *Juniperus virginiana*, *J. chinensis* and *argentea variegata*, *J. thurifera*, *J. venusta*, also the two striking varieties of *virginiana*, *glauca* and *pendula*. The other kinds of the highest excellence are *Wellingtonia gigantea*, *Thuja Lobbi*, *Thunopsis borealis* and *T. dolabrata*, *Libocedrus decurrens*, *Taxodium distichum*, *Salisburia adiantifolia*, *Betula pumila* and *B. pumila*, *Arctostaphylos selaginoides*, *Biota japonica*, and *B. orientalis pyramidalis*. Should you wish to form clumps or mixed groups of comparatively dwarf kinds, take *Biota (Thuja) aurea*, *B. elegantissima*, *Taxus adpressa*, *Retinospora ericoides*, *B. lepidocladia*, *B. obtusangula*, *R. squarrosa*, *Thuja ericoides*, *Podocarpus Andina*, *P. Koraiensis*, *Juniperus tamariscifolia*, *J. oblonga*, *J. oblonga pendula*, and *J. japonica*, *Biota compacta*, and *Abies Clanbrasiliana*.

TROPEOLYTH BULBS (A Lady Subscriber).—Pot them at once as they are starting to grow, and water sparingly until the soil is well filled with roots. The plant is *Borago*.

MANAGEMENT OF VINE BORDER (J. C. B.).—If, as you suggest, the border is imperfectly drained and the soil has become sodden, this would account for the deterioration of the Grapes. The surface should be forked up now, and should be in a rough state until frost sets in, when a dressing of dryish manure should be applied. This ought to remain until April, when the rough portion should be removed and the remainder be dug-in. When very dry weather sets in water the border and again dress with manure.

STOVE FOR GREENHOUSE (A. S. B.).—Write to the maker you mention, and ask him to send the drawings. If the stove has a flue to carry off the smoke into the outer air it would answer your purpose.

LATE MELONS (N. N.).—Fruits which were as large as walnuts ten days ago will now have increased considerably in size, unless, as we expect, a majority of the night upon the plant have shrivelled. Thin them, if not already done, to three or four, and by keeping the temperature at 65° at night and 70° to 75° by day the fruit will ripen in November. We should fill up the house with fresh plants of Cucumbers.

CLIMBERS FOR EXPOSED SITUATION (Janthe).—There is no evergreen climber except Ivy that will succeed in an exposed position, and the most likely sort is the Irish (*Hedera Helix canariensis*). *Cotoneaster microphylla* and *Crataegus pyracantha* are the most likely to succeed of evergreen plants suitable for covering trellises. As deciduous plants, *Jasminum nudiflorum* and *Clematis montana major* would be suitable.

RAISING MANETT STOCKS (Leo).—In November or December cut the firm wood of the current year's shoots into lengths of 10 to 12 inches, the bottom of the shoots or cuttings to be cut transversely below a bud, and the top just above a bud, removing all the eyes but the two uppermost. The cuttings should then be planted, forming a ridge about 8 inches high, and in the centre of this the cuttings are to be put in by taking out a notch longitudinally of the ridge, and into this the cuttings are to be placed, leaving one eye only above ground, firmly pressing the soil about the cuttings. They may be put in 6 inches apart, and 2 feet from row to row. In budding the ridge must be levelled so as to expose the main stems of the cutting, and in this, about 6 inches from the bottom, the buds must be inserted, and as soon after the stem is uncovered as practicable.

STOVE FOR HEATING GREENHOUSE (Idem).—We have no experience of a vapouring stove, but it is likely that stoves having no funnel will prove injurious to the plants.

CRATEGUS ORIENTALIS (R. E. M.).—The "haws" of this are very ornamental from their large size and bright colour; but we are not aware that they are used for any kind of confection. We are not aware that they are sold in Covent Garden Market.

PLANTING FORGET-ME-NOTS (Idem).—The seedlings should have been pricked off so soon as they were large enough to handle. As this has been neglected we should plant them out in their blooming quarters, having some in reserve in a sheltered situation to fill up any blanks that may occur during winter from the weak condition of the plants.

WINTERING ECHEVERIAS (Flora).—If the shed be light and safe from frost the plants may be placed in sand moderately moist, and the plants will winter safely, but the moisture and heat must not be such as to cause growth.

LAWN PATCHY (Idem).—Apply salt broadcast, at the rate of ten bushels per acre. The fungus will disappear for a time, but its recurrence may be anticipated. Some soils are peculiarly favourable to fungoid growths, especially in a dry season, a consequence probably of the presence in the soil of decomposing vegetable substances.

PROPAGATING TREE CARNATIONS (W. H.).—Select cuttings of the young shoots with two joints and the growing point, cut transversely below the lowest joint, removing the leaves from the joint, and insert the cuttings in fibrous loam with a third of sand added, placing them in a gentle heat as that of a hotbed, keeping moist and shaded from bright sun. They strike readily at any season. Tuberous-rooted Begonias should not be cut down until the leaves and stems turn yellow. Any light sandy soil is suitable for Rose cuttings in the open ground. If too heavy sand may be added, but loam that is neither light nor heavy will answer. A barren Camellia should not be cut down, but be encouraged to grow. To cut it would only still longer retard its flowering.

PHYTOLACCA DECANDRA (Irish Subscriber).—The readiest mode of increase is by seeds sown in spring in light sandy soil, placing the pots in a hotbed, pricking off the seedlings when large enough to handle, and planting out after being well hardened off in May. We do not know that the berries are suitable food for pheasants, our experience being that pheasants are not nearly so fond of berries of any kind as is often represented. They are fonder of roots—Jerusalem Artichoke and the tops of Cabbageworts—than berries, but seeds are their principal diet, varied with insects of various kinds. Pigeons eat the berries, and it is said that the flesh from the birds feeding upon them is purgative.

REPORTING BEGONIAS (H. S.).—We should not report the plants which are now ceasing flowering until signs of fresh growth are apparent in the spring. Water them moderately during the winter, giving just sufficient moisture to keep the foliage from flagging; or if they are tuberous-rooted sorts, and die down, just keep the soil from becoming dust-dry.

TUBEROUS-ROOTED BEGONIAS (D. D.).—Gradually reduce water as your plants assume their autumnal tints, withholding it almost entirely when the stems have died down. After that let the pots remain in the greenhouse until your hotbed and frame is ready, and in that frame start the tubers into growth, subsequently removing the plants into the lower temperature of a

close unheated frame or greenhouse. A heated stove is not necessary for these plants during the summer. With your conveniences you may grow the plants admirably by following the instructions given on page 301.

**PLANTING GLOBE ARTICHOKE AND ASPARAGUS (Z. R.).**—The best time for planting is after the crowns have made an inch of growth in the spring, taking care that the roots are not dried during removal. Seakale roots may be planted immediately the crowns are showing signs of growth.

**NEW ZEALAND (R. Morgan).**—We never give advice as to emigration. Write to the Emigration Commissioners, and ask them to send you one of their guide books.

**VINES AND PEACH TREES IN GREENHOUSE (A Constant Reader).**—You ask, Is it advisable to grow Peach trees in a greenhouse with Vines? We say, Certainly not. By trying to do too much you are likely to do nothing well; but, if you do determine to have them, the best sort to plant is Royal George. The best black Grape for the greenhouse is Black Hamburgh, and the best white Grape Buckland Sweetwater. The best way to warm your house would be by fixing a small saddle boiler, and if you want merely to keep out the frost three rows of 4-inch pipes would be sufficient. We should plant the Vines outside, and train the stem through the wall near the surface of the ground.

**HARDINESS OF BEGONIAS (A Subscriber).**—Provided you can keep them safe from frost, and can start them in a hotbed in spring, having them strong by the early part of June, and then planting them out in a sheltered yet sunny position, all the kinds you name will succeed; but unless you can command those appliances none will thrive except B. Veitchii, which is very nearly if not quite hardy.

**ROSE STOCKS FOR BUDDING.**—"Awee" says, that some time last autumn a correspondent wrote respecting Briar slips or cuttings as stocks for Roses, and asks him to give the account of his experience of this past season respecting them, and if they were planted as slips with the heel to them, and other particulars as to time of planting, &c.

**GERANIUM ROOTS GRUB-EATEN (J. W. M.).**—Grubs in the soil will eat the roots and lower part of the stems below the surface. A little lime stirred into the soil around the plants would protect them.

**KEMPTON EARLY POTATO.**—"E. K." wishes to know its origin, and if it has any synonyms.

**ASPARAGUS BED MANURING (Wimbledon Target).**—Put on some thoroughly decayed stable dung, and cover it thinly with earth as soon as the stems have been cut down. The leaf is of *Centaurea candidissima*.

**GLASS SHUTTERS (Mrs. M.).**—Apply to Mr. James Gray, 30, Danvers Street, Paulton Square, London.

**PINE APPLE BLACK-CENTRED (P. L. Bushbury).**—It arises from defective culture in some way, often from too much moisture, and especially if water is applied over the crown.

**TRANSPLANTING AN OLD VINE (Novice).**—You give no particulars as to the age or size of the Vine. As soon as the leaves fall is a good time for transplanting, securing as many of the roots as possible, and surrounding them with light soil, covering the surface of the ground with manure to prevent the frost penetrating. It will be necessary to prune the Vine much closer than if it was not transplanted.

**WIREWORMS IN VINE BORDER (Old Subscriber).**—We have not found them do any harm to the Vines; but you can destroy them, as they are no good, by placing potatoes a few inches below the surface, and examining them occasionally, when the wireworms can be destroyed.

**NAMES OF FRUITS (A. C.).**—The Grape is not Golden Champion. It appears to be a badly-coloured Black Hamburgh, but it is not possible to name a Grape correctly without seeing a perfect bunch and leaves. (Mrs. Shuttleworth).—Sops in Wine. (Knutsford).—1, Sweeny Nonpareil; 2, Downton Pippin. (A Constant Reader).—8, Beurre Hardy; 48, Glou Merveille; 92, Van Mons Léon Leclerc. (C. T. H.).—1, Hawthornden; 2, Ravelston Pippin. (Devon).—1, Claygate Pearmain; 2, Christie's Pippin; 3, Carol's Seedling; 4, Downton Pippin; 5, Duchess of Oldenburg; 6, Nelson Codlin. (Rev. T. W. H.).—1, Christie's Pippin; 2, A cider Apple; 3, Striped Beefing; 4, Mère de Menage; 5, Morning Pippin; 6, Maiden's Blush. (C. H.).—1, Flemish Beauty; 2, Knight's Monarch; 3, Doyenné Gris; 4, Fondante d'Autonne; 5, White Doyenné; 6, Urbaniste.

**NAMES OF PLANTS (A. Boyle).**—*Datura arborea*. (Subscriber).—*Euphorbia Cyparissias*. (P. B.).—Specimen insufficient. (W. T.).—1, *Adiantum hispidum*; 2, no flowers (a Grass); 3, *Selaginella Braunii*; 4, *Adiantum macrophyllum*. (J. S.).—1, *Pteris cretica*; 2, cristate form of *Filix-femina*; 3, *Lastrea dilatata*; 4 and 5, *Filix-femina*; 6, *Aspidium falcatum*. (A. W. B.).—1, *Aspidium falcatum*; 2, *Aspidium aculeatum*; 3, *Lomaria spicata*; 4, *Polypodium pustulatum*; 5, *Asplenium Fabranum*; 6, *Gymnogramma L'Hermieri*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### TONBRIDGE WELLS POULTRY SHOW.

THIS Exhibition was held in connection with the Agricultural Association, and was a complete success. The arrangements were admirably carried out by the Stewards, the Messrs. Ware, who saw to the welfare of the birds and the public. The tents were thronged, and the crowd at times was so great that it was quite impossible to move. The Judges were Mr. M. Hedley and Mr. W. J. Nicholls, who judged together, and turned out a most satisfactory lot of awards. The pens were Billett's of Southampton, and were capitally arranged.

In *Dorkings* the first and second cocks were very well grown birds, but of rather too silvery a shade for our taste. One of them reminded us very much of the cockerel passed at Ipswich without notice. Third prize went to Whites in exquisite bloom, their only blemish being white earlobes. The best hen in the class we thought was in pen 6 (Darby). Buff *Cochins* were good; a very pretty cockerel and a good hen won first. The former was, we believe, the bird first at Bath. The pullet in the second

pen was capital in colour and of a good shape. In the Variety *Cochin* class a fine pen of White chickens won first. The birds were in very good feather and condition. In the second-prize pen was one of the best hens (White) we have seen for a long time. Dark *Brahmas* were poor; the first-prize hen only is worthy of comment, and she was rather brown. Lights were better, and a very smart pair of chickens won first. They were good in shape and well shown. Second and third contained very neat but rather small cockerels. In the *Spaniards* we noticed a good pen of chickens, which took first. *Houdans* were few and fairly good. The first-prize pen contained the Bath cup cockerel and a very lovely pullet. The first *Crèves* were very fine, the pullet especially large and good. *Hamburgs* were simply miserable, while the *Game* were as much superior. Mr. Ward's cockerels were very smart and well shown, and are likely to be heard of again. The Variety class made one of the best classes in the Show. First went to the good La Flèche chickens, which won second at Ipswich; second went to splendid White-crested *Polands*; while the third prize was won by a very perfect pen of *Silkie*s. The Brown *Leghorns* in Mr. Kitchen's very highly commended pen were very neat in comb and bright in colour. The Sale classes contained some good birds, notably so the first *Light Brahmas* of Mr. Pitt. *Bantams* had only one class, which comprised seventeen entries. A splendid pair of Silver-laced were first; small *Game* second; and neat White-booted third; very highly commended (Leno) a fairly good pen of Gold-laced. *Aylesbury Ducks* were good, and the Rouens better, the winners being really very fair in colour and large. In the Variety Duck class first and second went to fancy birds, shown in fine feather; and third to capital East Indians of good colour. The *Geese* and *Turkeys* were good, as they always are here.

In *Pigeons* first-class Carriers won most of the prizes. In single birds, however, a good White one came in second. We give the prize list below:—

**POULTRY.**—**DORKINGS.**—1 and 2, R. Cheesman. 3, R. A. Boissier. **COCHINS.**—*Cinnamon* or *Buff*.—1, A. Darby. 2 and 3, Mrs. A. Christy. *Any other variety*.—1, Rev. R. S. S. Woodgate. 2 and 3, R. A. Boissier. **BRAHMAS.**—*Dark*.—1, J. K. Lawther. 2, M. Leno. 3, Rev. J. P. Wright. *Light*.—1, M. Leno. 2 and 3, Capt. W. Savile. **SPANISH.**—1, J. Hunt. 2 and 3, J. Francis. **HOUDANS.**—1 and 2, R. A. Boissier. 3, Miss A. Sharp. **CRÈVES.**—1 and 2, H. Stephens. 3, Miss A. Sharp. **HAMBURGERS.**—*Pencilled*.—1, A. Livings. 2, E. Durrant. *Black or Brown Red*.—1, W. Foster. 2 and 3, A. Warde. *Any other variety*.—1, G. H. Fitz-Herbert. 2, H. Ritchie. *ANY OTHER DISTINCT VARIETY.*—1, H. Stephens. 2, A. Darby. 3, Rev. R. S. S. Woodgate. **SELLING CLASSES.**—*Cock*.—1, H. Stephens. 2, R. A. Boissier. 3, F. Evans. *Hens*.—1, S. Pitt. 2, A. Darby. 3, R. Cheesman. *Pair*.—1, S. Pitt. 2, Rev. R. S. S. Woodgate. 3, H. Stephens. **BANTAMS.**—1, M. Leno. 2, F. C. Davis. 3, Rev. R. S. S. Woodgate. **DUCKS.**—*Aylesbury*.—1, G. Ware. 2, Marchioness Camden. 3, F. E. Arter. *Rouen*.—1, A. Arnold. 2, A. Ward. 3, J. K. Lawther. *Any other variety*.—1 and 2, M. Leno. 3, G. S. Sainsbury. **GEES.**—1, G. H. Field. 2, Marchioness Camden. 3, A. J. B. Beresford-Hope. **TURKEYS.**—1, A. Warde. 2, Marchioness Camden. 3, Marquis of Abergavenny. **PIGEONS.**—*ANY BREED.*—*Pair*.—1, H. Stephens. 2 and 3, J. Chandler. *Single*.—1 and 2, J. Chandler. 3, H. Stephens. **RABBITS.**—1, J. Buss. 2, C. King. 3, F. Killick.

### NORTHAMPTON PIGEON AND BIRD SHOW.

THE fifth Show of the Good Intent Ornithological Society was held in the Lecture Hall on October 7th and 9th. As a rule no show is better conducted, and as far as was in the power of the Committee all was well carried out; but irregularities over which they had no control caused such confusion as is seldom seen at any show, and no show was ever judged under greater difficulties, for at the time the birds should have been penned it was found there were about two hundred pens short, and these had to be made out of boards and wire netting, and this continued far into the afternoon. We think no one ought to undertake to supply pens unless quite certain of being able to carry out the engagement to the letter. The entries in all sections were very large, there being 856 in all, Pigeons averaging eighteen in a class, and Rabbits a little over twenty-seven in a class, or 193 Rabbits and 352 Pigeons, this being the most complete success the Society has had.

**Pigeons.**—Pouters headed the list, a White cock in splendid form taking the lead, second a Black, and third White. In hens first was the White Ipswich cup bird in the finest order, second Blue, and third Red. Carrier cocks were a grand lot. First a Dun, and second Black, beaten only in neck and style, and third Black. In hens first and second were Duns, and third Blacks—a capital lot. Carrier cock or hen of this season were very good and large entries, the winners being Black. Barbs, first a Black hen, second Black cock, and third a Red, a little pinched, but broad in skull. In Tumblers, Short-faced, all the winners were Almonds and all cocks. Long-faces were—first a Yellow Bald, second a Red Mottle, and third a Black Bald. In foreign Owls first and third White, and second Blue. Owls, English, cocks were a large entry, and there were many excellent birds, the first extraordinarily short in face, well curved, and large in skull; the second longer, but of the true type, both Blues, and third a good Silver. Hens were also a good class, although some were too spindly in beak, the winners Silver, Blue, and Silver respectively. Turbits a large class. First and third Silver, and second Blue. Jacobins were uncommonly good. First a Red, second White, and third Yellow. In Dra-

goons first was a Silver, and second and third Blues, and all by one exhibitor, and of the same type. Dragoons, any other, first and second Yellow, and third Grizzle. Antwerps were not so good a class, though there were some good birds in both cases. In the Variety class first was a Black Trumpeter, second a Blondinette, and third a Black Turbitten. There were two very large Selling classes, the first in both cases being White Pouters.

**Rabbits.**—Of these there was such a show as has never before been seen for the amount of money offered. Lops were all mentioned with the exception of one crooked-legged specimen. The first was a Sooty-fawn Doe, 23 by 4½, without doubt one of the most perfect Rabbits ever seen; second a Sooty-fawn buck, grand in carriage, with very large head and eye, 23 by 4½; third a Black-and-white doe, 22½ by 5, the rest coming well up to these measurements, many being well deserving of prizes. Dutch an enormous class of thirty-four, but in quality not first-rate, there being very few anything like perfect in marking. The whole of the winners were grey. Angoras were a good lot. First a very soft-wooled Rabbit, good in all respects, and claimed at the catalogue price; second a young one, very good in wool but small; and third a fair Rabbit, well groomed, but a little coarse in wool. Himalayans were about the most even class in the Show, many more deserving prizes beside those that won. In Silver-Greys were some very good specimens, and yet none quite up to what we have seen. The first most perfect in silvering, sharp, and full of ticking, with the slightest inclination to be shady on the face; second a little more even, but duller in silvering; and third a very even Rabbit, but slightly inclined to mealliness. In the Variety class first was a Silver Cream, which would be much more properly designated Silver Fawn; second about the best Belgian Hare we have yet seen; and third also a capital Belgian. The Selling class contained fifty-six entries, but on account of the difficulty with the pens before referred to it was a sad medley, and it would have been much better had the lot been divided; two extra prizes were, however, given. First was a good little Tortoiseshell Dutch, second Himalayan, third Silver-Grey; extra second Tortoiseshell Lop, 21½ by 4½. Many of these being excellent bargains.

**Cage Birds.**—Clear Yellow Norwich headed the list; the first, though not quite fine, having a few nestling feathers about the eyes, still well placed, and soon claimed at the catalogue price, £5. Quite a tussle for second honours, the third being almost equal. Buffs were a grand lot; first and second (Mr. Athersuch) out-distanced all the rest. Evenly-marked classes contained some capital specimens as regards colour and markings; first and second in each class were good. The winners in Ticked and Unevenly-marked Jonque were *unevenly* birds. Mr. Adams readily gained first and second in Ticked and Unevenly-marked Buffs with a capital pair; first a large Ticked. The Crested classes were numerous and good. First in Jonque, with the exception of being rather horned at the back of the crest, was very superior; dark crest and wings. The first in Buffs was a bird that judges were so divided in opinion upon last year, being a question of Norwich *versus* Crest and *vice-versa*. In this instance Crest won the day. The Lizard Jonques moderate; first and second Silvers were exceptionally good. Cinnamons were simply grand, though several Jonques were disqualified for being deficient of tail feathers. Any other variety of Canary or Mule, first went to a good Coppy, second a beautiful Greenfinch Mule, third a Yellow Belgian. Goldfinch Mules were a grand collection; first Mr. Salt's, late Bunting's, "Snowflake" in grand condition; second evenly Buff, same owner; third Variegated Jonque. In British birds a misnomer, White Blackbird, gained first honours. In a well-contested Selling class Mr. Athersuch took the lead with a bird fit to contend in better company.

**PIGEONS.**—**Pouters.**—Cock.—1, L. & W. Watkin. 2, J. Stiles, jun. 3, R. Fulton. *vhc.* J. Baker, C. Martin, W. Nottage, R. Fulton. *Hen.*—1, R. Fulton. 2, J. Baker. 3, L. & W. Watkin. *vhc.* C. Martin, H. R. Tenney. **CARRIERS.**—Cock.—1, R. Fulton. 2 and 3, J. Baker. *vhc.* H. Yardley, R. Fulton. *Hen.*—1 and 2, R. Fulton. 3, H. Pratt. *vhc.* J. E. Palmer, H. Yardley. **Young Cock or Hen.**—1, M. Leno. 3, C. Hillier. 3, H. Pratt. *vhc.* J. E. Palmer, W. Larkins, J. H. Smith. **BARS.**—Cock or Hen.—1, W. Larkins. 2 and 3, R. Fulton. *vhc.* J. Baker. **TUMBLERS.**—*Short-faced.*—Cock or Hen.—1, J. Baker. 2 and 3, R. Fulton. *vhc.* J. Baker, W. R. Pratt. *Long-faced.*—Cock or Hen.—1 and 2, R. Fulton. **OWLS.**—*Foreign.*—Cock or Hen.—1, R. Fulton. 2 and 3, J. Baker. *English.*—Cock.—1, W. Binns. 2, E. Lee. 3, R. Woods. *vhc.* J. Baker, J. Thresh, P. H. Jones. *Hen.*—1, J. Thresh. 2, P. H. Jones. 3, J. Barnes. *vhc.* W. Binns, R. J. Goodwin. **TURBITT.**—Cock or Hen.—1 and 2, J. Baker. 3, H. Yardley. *vhc.* J. Barnes. **JACOBS.**—Cock or Hen.—1 and 2, T. W. Swallow. 3, R. Fulton. *vhc.* G. Hardy (2). J. Frame, J. Baker, R. Fulton (2). **DRACOONS.**—*Blue or silver.*—Cock or Hen.—1, 2, and 3, R. Woods. *vhc.* W. Sugden, A. McKenzie (2), J. Baker. *Any other colour.*—Cock or Hen.—1 and 3, R. Woods. 2, W. Sugden. **ANTWERPS.**—*Short-faced.*—Cock or Hen.—1, H. Yardley. 2, J. Chandler. 3, J. J. Bradley. *Any other variety.*—Cock or Hen.—1, C. F. Herrieff. 2, W. Carter, jun. 3, E. North. **ANY OTHER VARIETY.**—Cock or Hen.—1, J. Baker. 2 and 3, H. Yardley. **SELLING CLASS.**—*Single Birds.*—1, W. Nottage. 2, J. Frame. 3, R. Woods. *Pairs.*—1, W. Nottage. 2, A. Bentley. 3, T. H. and A. Stretch.

**CANARIES.**—**NORWICH.**—*Clear Jonque.*—1, F. Willis. 2 and *vhc.* J. Athersuch. 3, D. Andley. *Clear Buff.*—1 and 2, J. Athersuch. 3, West & Sawyer. *vhc.* F. Willis, Brown & Gayton. *Evenly-marked Jonque.*—1, C. J. Salt. 2, T. Cleminson. 3, J. Adams. *vhc.* Cox & Griffin. *Evenly-marked Buff.*—1, C. Hampton. 2, F. Willis. 3, C. J. Salt. *vhc.* Cox & Griffin. *Ticked or Unevenly-marked Jonque.*—1, J. Athersuch. 2, J. Adams. 3, G. E. Russell. *vhc.* F. Willis, Cox & Griffin. *Ticked or Unevenly-marked Buff.*—1 and 2, J. Adams. 3, J. Athersuch. *vhc.* F. Willis. *Any variety Crested Jonque.*—1, T. Irons. 3, S. Stratford. 3, W. J. Hampton. *vhc.* G. E. Russell, C. J. Salt. *Any variety Crested Buff.*—1, S. Stratford. 2, F. J. Knaggs. 3, C. J. Salt. *vhc.* Cox and Griffin, W. J. Hampton. **YORKSHIRE.**—*Clear, Ticked, or Variegated Yellow.*—1,

2, and *vhc.* J. Thackrey. 3, L. Belk. *Clear, Ticked, or Variegated Buff.*—1, 3, and *vhc.* J. Thackrey. 2, L. Belk. **LIZARD.**—*Golden-spangled.*—1, Cleminson and Ellerton. 2, T. Tenniswood. 3, T. Cleminson. *Silver-spangled.*—1, R. Ritchie. 2 and *vhc.* Cleminson & Ellerton. 3, T. Cleminson. **CINNAMON.**—*Jonque.*—1, J. Athersuch. 2, J. Adams. 3, Brown & Gayton. *vhc.* Cox and Griffin. *Buff.*—1, J. Adams. 2, Rice & Co. 3, J. Adams. *vhc.* Brown & Gayton, Rice & Co. *Ticked or Broken Jonque or Buff.*—1 and 2, J. Adams. 3, Rice & Co. *vhc.* Cox & Griffin. *Evenly-marked or Variegated, Jonque or Buff, Plain or Crested.*—1, L. Belk. 2, S. Stratford. 3, D. Andley. *vhc.* Rice & Co., J. Athersuch, C. J. Salt. **ANY OTHER VARIETY OF CANARY OR MULE.**—1 and 3, C. J. Salt. 2, W. C. Burniston. *vhc.* C. J. Salt, F. Barbour. **GOLDFINCH MULE.**—*Clear.* *Evenly-marked, or Variegated Jonque or Buff.*—1 and 2, C. J. Salt. 3 and *vhc.* Strout & Good. *Dark Jonque or Buff.*—1, Cox & Griffin. 2 and *vhc.* C. J. Salt. 3, W. Smith. **BRITISH BIRDS.**—1, R. Humphrey. 2, E. Martin. 3, W. C. Burniston. *vhc.* G. Mead, J. Hopkins, J. Mason. **SELLING CLASS.**—1, J. Athersuch. 2, Rice & Co. 3, F. Willis. *vhc.* Brown & Gayton, F. Willis.

**RABBITS.**—**LOP-EARED.**—*Buck or Doe.*—1, J. Cranch. 2, C. E. Thompson. 3, E. Pepper. *vhc.* T. & E. J. Fell (2). C. King (2). T. S. Barrows, A. Archer. *Dutch.*—*Buck or Doe.*—1, Mrs. H. Pickworth. 2, W. Richardson. 3, W. Milnes. *vhc.* C. Tilley (2), Maynard & Noble, C. G. Chambers, S. Ball. *Angora.*—*Buck or Doe.*—1, J. Webb. 2, G. Johnson. 3, J. Martin. *vhc.* J. Martin, R. A. Boissier, T. A. James. **HIMALAYAN.**—*Buck or Doe.*—1, J. E. Filgrim. 2, G. W. Greenbill. 3, T. A. James. *vhc.* J. Bigham, T. & H. Duck, R. A. Boissier. *Silver-Grey.*—*Buck or Doe.*—1, J. H. Roberts. 2, T. W. Anns. 3, F. Parser. *vhc.* T. & J. Fell, J. Barker, J. Firth, W. Andrews. *Any other variety.*—*Buck or Doe.*—1, E. Pepper. 2, F. Robinson. 3, E. Brooks, jun. **SELLING CLASS.**—*Buck or Doe.*—1, C. G. Chambers. 2, J. Tebbutt, B. Robinson. E. Pepper. 3, J. Martin, T. Goughly. *vhc.* T. C. Beasley, T. A. James, C. G. Chambers, T. Goughly.

**JUDGES.**—*Pigeons and Rabbits:* Mr. E. Hutton. *Cage Birds:* Mr. Benson.

## CIRENCESTER POULTRY SHOW.

MAY I call your attention and that of your readers to the schedule of the forthcoming Cirencester Poultry Show? Every effort has been made to give effect to the various suggestions which have from time to time been made, so far as practicable. Amateurs specially conversant with the classes they have to judge have kindly consented to judge. Their names will be given, and the classes they undertake announced.

Some important classes, such as Dorkings and Spanish, have been left out. They have never mustered strongly, and it is thought that at local shows all classes should pay. There is still time to insert any class of which the admirers will guarantee entries. I have myself done this with the Game classes on condition that the Oxford schedule is adopted for them. If, therefore, any class is omitted the Committee will not be to blame. Finally, the Committee, though they have always paid without fail, have thought it well to announce that they hold themselves responsible for the payment of all prizes.—F. G. DUTTON, *Bibury Vicarage, Fairford.*

## THE BLUE ROCK AND THE BLUE ANTWERP.

HAVE all Antwerps the small white eye wattle? I had a bird given to me last year as a well-bred Antwerp, but it seems to me to look more like a Blue Rock as described in the various books. It has hardly a trace of eye wattle, and the little it has is rather pink. Its beak is dark, and thinner than those of other birds I have which I believe to be Antwerps, and it has only a small beak wattle. The eye is red. The bird is larger than an ordinary dove-cote Pigeon; but Blue Rocks I do not remember ever to have seen.—A. C.

[The "common Blue Rock" is the most uncommon Pigeon in England. We have not seen a true one for a quarter of a century, and then in Scotland, where some were breeding in caverns in the rocks on the eastern seacoast. As to Antwerps, they are of all types, from half Owls to birds very like dove-house Pigeons. Even at the Crystal Palace we have seen them with the frill of the Owl. This need not surprise anyone, as Antwerps were bred from Owls and Rocks. Shape goes for little. Some strains have "spindly" beaks, others thick beaks. So in regard to the wattle; we have had them with large wattles, and scarcely any at all. In the Antwerp the rule is "payment by results." The bird that homes well is the bird; colour, wattle, shape go for little. Still there is a general look which indicates the metal of which the bird is made—a something that says, "can't I fly, that's all."]

**CANTERBURY POULTRY SHOW.**—The prize list is very comprehensive, and although none of the first prizes are higher than £1, there are twelve extra prizes, including nine silver cups.

## RABBITS EATING THEIR YOUNG.

THE last four months I have bred in a warren about eighty Rabbits, which have lived for about six weeks and then disappeared. Are cats or stoats the enemies, or what takes them? Do the old Rabbits take a particular fancy for eating their young about that age?—W. H. H.

[If Rabbits eat their own young, it is immediately they are born. This is not uncommon with tame does, but we are not aware that wild Rabbits are thus unnatural. As you do not find the bodies of the young, and we infer by your query you do not, they must be killed and eaten, most probably by cats or weasels. A chemist would be your best guide as to poisons. Rabbits

only eating grass or grain, there would be no difficulty in giving poison to animals at the same place which naturally eat animal food only, as do cats, weasels, &c.]

### THE PECTOPLUME.

PROBABLY few have had the pleasure of examining this machine in the Agricultural Hall, Philadelphia, at the Centennial Exhibition.

It is the production of one of our genuine Yankee inventors, and, like many other useful inventions, was the result of a desire to lighten and shorten the monotonous hand-work on the farm.

The pectoplume, or feather-picker, is designed to pick or pluck the feathers from poultry of all kinds in preparing them for market. In addition to this it sorts the feathers, putting the quill feathers in one repository and the soft downy feathers in another.

In appearance the pectoplume somewhat resembles a large-sized sewing machine with the cover on it. The table is about 2½ feet wide and 4 long, and about the height of an ordinary table. In the centre of this is the machinery, which is operated by a treadle and fly-wheel underneath, the same as a sewing machine. The machinery consists of a wheel about 1 foot in diameter, and perhaps 2 inches thick on the outer edge; this edge or rim is provided with fingers, or "pickers," of india-rubber, so arranged and operated by mechanism, that as they come above the surface of the picker-table they clasp and pinch whatever comes in their way, and as they pass below on the opposite side open again, releasing the feathers. The light feathers are blown by a current of air over a sliding lip (which can be raised or lowered by the operator) into a shoot or spout, under which may be placed a box, basket, or bag to receive them. The heavy or quill feathers falling into a V-shaped trough before reaching this lip are picked up by an automatic hand and bunched, a bit of wire twisted around them, and thrown out into a basket or box placed behind the machine.

In operating it the person seats himself in front with his foot upon the treadle; getting the machine in motion he takes the fowl by the legs, laying it on the upper or picker-table, so that the rubber "pickers" just touch the fowl, turning the fowl sideways and spreading the legs, so that the fingers reach all parts of the fowl. The birds are dry-picked of course.

Mr. Obed Hopkins, the inventor, says he can with foot power pick a fowl clean in one minute; by horse or steam he considers it possible to pick two hundred fowls per hour. The work is rather too heavy for one person, and cannot be kept up any length of time; but with one to operate the treadle and another to manipulate the fowl a hundred birds can be dressed in a very short time.—H. OAKS.—(*Pet-Stock Bulletin*.)

### STRAW SKEPS VERSUS BAR HIVES.

So much has lately appeared in the *Journal of Horticulture* in favour of straw skeps and the whole system of bee management, that a tyro would be led to infer that all that has been done during the last century to advance the science of apiculture has been a move in the wrong direction; and although all the scientific apiarians in Europe and America have adopted some modification of the bar or bar-and-frame hive, it has at length been discovered that a large straw skep with fixed combs, made doubly secure by transverse sticks, and the ultimate destruction of the bees by sulphur (which is in the majority of instances involved in this mode of management), to obtain their treasures, is the *ne plus ultra* of bee-keeping where large harvests of honey and wax are to be secured. A few remarks upon the conservative system may possibly be acceptable to some of your readers, showing that excellent results may be obtained with modern improved hives, notwithstanding Mr. Pettigrew's wholesale condemnation of moveable bars, which are the greatest improvement ever effected in apiculture, and which will never be abandoned by any who have once tried them, if they only possess sufficient skill and knowledge to avail themselves of the advantages they possess.

In consequence of what was written by "A RENFREWSHIRE BEE-KEEPER," I was induced to give the Stewarton system a trial, and the result has been most satisfactory. One hive this season has yielded me 144 lbs. of perfectly pure virgin honeycomb, and the stock from which it was taken weighed 60 lbs. nett—(i.e., exclusive of the hive), after the supers had been removed.

In 1875, the worst honey season known in this district for twenty years, this colony gave me about 30 lbs. of very fine honey, and had sufficient left for a winter supply. The bees wintered in two Stewarton boxes, each 7 inches deep; and it may be remarked, as bearing upon a controversy held in this *Journal* some years ago, that they selected the upper storey for their winter residence. Towards the end of May, 1876, two supers, respectively 4 and 5 inches deep, were put over the stock, and the two outer slides withdrawn. The bees soon took possession of the supers, but as honey was not very abundant

did not progress very rapidly, and, as the hive did not seem crowded, I was unwilling to give them additional accommodation below. The result was that a large swarm issued forth on Trinity Sunday, at about 10 A.M. The swarm was hived in a large skep, and as soon as the bees were settled was carried down into a cellar, lest one of the numerous decoy hives the tenants of which had died in the winter should tempt the bees to decamp. After midday I overhauled all the combs in the stock (see the use of moveable bars), and excised all the royal cells. The swarm was then returned to the parent hive. A third stock box furnished only with a little guide comb was placed under the colony, and a third super added at the top. The bees now set to work vigorously, so that a fourth super was soon required. On the 11th of July, finding that the three lower supers were perfectly sealed, they were removed, and contained 68 lbs. of pure virgin honeycomb. Two supers were added at the top, and upon the 26th of July the two lower supers were removed, perfectly completed, and containing 41 lbs. of virgin honeycomb. The two remaining supers were taken off upon the 6th of August, and contained 35 lbs. of virgin honeycomb. All this large amount—144 lbs.—of wax and honey was made and collected by the bees fairly and honestly from the fields, without the slightest assistance, except that the two first supers were furnished with pieces of guide comb about an inch in depth, and the subsequent supers were merely supplied with strips of plain sheet wax about three-quarters of an inch deep to secure straight combs. The whole of the honey in seven compartments was stored in perfectly pure virgin comb, and not a single cell in the whole pile contained the slightest trace of brood or pollen.

Contrast this with a Pettigrew hive. In one case you have 144 lbs. of the purest honey in seven separate boxes, each box containing seven combs, each comb fixed upon a separate bar. Any one of these boxes, or any individual comb, can at any time be utilised without the least mess and without any appreciable amount of trouble, or can be kept as it is for months if required. All has been taken, almost without the loss of a single bee. Take the Pettigrew hive, and you have a large receptacle filled with a most heterogeneous mixture. The outer combs may contain pure honey; but even these must be broken up to get them out of the skep, and all the central part of the hive is a mixture of brood, pollen, and discoloured comb. Mr. Pettigrew justly observes bar frames can never help bees, but seems to have failed to discern that they may and do most materially help bee-masters.

All my Stewarton stock boxes contain four frames in the centre, and the hive which produced the harvest I have alluded to was and is tenanted by pure Italian bees.—J. E. BAISCOE, *Albrighton*.

### BEEES SWARMING WITHOUT A QUEEN.

In the *American Prairie Farmer* are given one or two alleged instances of bees swarming without a queen. They appear circumstantial in their details, yet who can believe the thing possible? There are many instances, no doubt, when a swarm rises without a queen, which perhaps may have turned back immediately after leaving the hive, or been lost in the confusion which always more or less attends swarming, but that a swarm should issue and settle so as to be hived without a queen is not possible. In one of the instances mentioned the queen is said to have been found in a bar-framed hive quietly walking about the combs some time after the issue of the swarm; but this fact, if fact it be, would only prove either that there were two queens in the hive, or that the swarm had gone off with a fertile worker. Instances of the former have been noticed in this *Journal*, so well authenticated as to leave no doubt of the fact. Are there any known instances of the latter, or can any of our apian friends mention any instances of apparent swarming without a queen? I mean instances when a *bonâ-fide* swarm has gone off or been hived without its queen?—B. & W.

### COLOURING COMBS AND CELL LIDS.

I AM obliged to your correspondent "J. P. J." for his friendly criticisms on my remarks on this subject. I am always pleased with such fair and temperate criticism. I failed to explain how or by what means bees temper the colour of the lids of brood cells to correspond with the colour of the combs. This is of course done by using old materials, and I am unable to conceive any other mode of doing it. "J. P. J." and myself are of the same opinion and agree here.

He advances a step further than I have ever gone when he says, "My experience has been that bees never cap brood cells with new wax; but as the edges of the cells are of extra thickness, and contain sufficient material to form caps, they simply draw out the edges and so cover over the cells." This is a very nice point, which I think our friend will find somewhat difficult to prove or maintain. Shall I be excused if I ask him to give us the details of his experience on this question? All finished cells have rims round their mouths which strengthen them



much, though they contain so little materials that they are imperceptible to the naked eye, or nearly imperceptible. The lids of queen cells are clumsily made and contain a great deal of material. Drone cells also are covered with big thick lids, which are cast out of the hives when the young drones are hatched. Does our friend maintain that these lids are made solely from the rims of the cells, or do his remarks apply to cells of working bees only? If so, he has to explain how or by what means and materials the brood cells in the centre of hives are covered with lids twelve or fourteen times every year. If his experience is correct all the brood cells have new rims some twelve or fourteen times in a season, and these rims are converted into lids. He may be right, though I do not see it at present. I shall be glad to receive further information from "J. P. J."—A. PETTIGREW.

### "B. & W.'S" APIARY IN 1876.

Of the ten hives in good order as to food and comb with which I entered upon the year, only three survived so as to be worth anything by April. All the rest died of feebleness (I know not what else to call it), arising from scarcity of brood developed in autumn. This was owing to the long-continued wet weather. The same cause prevented the bees from recovering in the early spring. In fact it rained almost every day more or less up to the 30th of April. In May (not a genial month here) they began slowly to mend, but it was not till the latter part of June that the strongest of the surviving three was able to send out a swarm.

Since then they have done well, and my three hives have given me about 70 lbs. of excellent honey, besides a couple of swarms, to which I have added two other swarms. I do not find that my neighbours on the whole have come up to this mark, so that the result of this year's bee-keeping adds to the conviction I have long formed, that our part of Somersetshire is about as bad a honey-producing county as any in Great Britain.—B. & W.

### BEEES WORKING ON A PINE TREE.

THOUGH I am but a beginner in bee-keeping, I am deeply interested in anything concerning the habits and management of bees. There is a fine specimen of *Pinus pinsapo* growing in this neighbourhood, which for three months past has been the constant resort of thousands of bees, so that the tree is in one continual hum, especially in the early part of the day. Since the cool weather has set in wasps seem to have taken possession, and may be seen clinging to the tree in great numbers, making it unsafe to disturb the tree in any way, as scarcely a branch of it is free from them. Perhaps some of your numerous correspondents would through your Journal enlighten me as to why such preference is given to this tree.—R. W. R.

[If any readers have witnessed bees working on pine trees I shall be glad if they will give their opinions as to the matter or stuff the bees were gathering. I fancy—and it is only fancy—that the tree above mentioned is in a state of disease and covered with an insect, probably a small aphid, which ejects a sweet matter well known as honeydew. The fact that the bees were most busy in the early part of the day indicates that they found more stuff than in the afternoon. I have never seen bees working on pine trees, but my father went into his garden one morning very early, and found his bees hard at work, coming home heavily laden from a plantation of Scotch firs. He went amongst the trees and found the bees were gathering a clear shining substance from the leaves of the young Scotch firs. He did not then suspect that the matter gathered was the exudations of an insect. This happened before my day. The honey gathered that year, according to my father's account, fermented in the hives and destroyed many of them. In no other season did he ever find the bees working on the Scotch firs adjoining his apiary.—A. PETTIGREW.]

IRON DURING MOULTING.—A good article to use in the water given your moulting fowls to drink is the tincture of iron. It is very handy and cheap, and should be accessible constantly during the critical time when old fowls are changing their plumage. It is strengthening, palatable, and works like a charm in its way as a stomach tonic. A tablespoonful of the tincture to a quart of water is sufficient. To be had at any drug store.—(American Poultry Nation.)

### OUR LETTER BOX.

HATCHING APPARATUS (R. A.).—Not one that has yet been invented has ever proved satisfactory.

YOUNG POULTRY DYING (J. Whitaker).—You say that none of the old birds die, are they fed together? There was nothing apparently injurious in the wheat you sent, and the birds sent are in good condition. Their crops were empty. We think there must be something poisonous eaten by them.

UNDEBDED GAME COCK (C.).—A medium-sized comb is preferable to a large comb.

BANTAM'S EYES SWOLLEN (F. W.).—We do not know what fluid you mean, but eyes are too delicate to be trifled with. Apply goulard water, taking care that it does not touch the eyeball.

CRYSTALS ON PAMPAS GRASS (Mrs. W.).—A saturated solution of alum will deposit them.

TAKING HONEY (Inquirer).—It is not too late to take the honey from your straw skep, but of course you will find less of it than if you had robbed the bees six weeks ago, unless you are fortunate enough to live near heather. If you take all the honey you had better unite the bees to some weaker hive.

SMOKING BEES—EXAMINING HIVE (A. del B.).—1st, The other day I bought a hive of bees, fastened to a stool without a board. Wishing to put it on a board, I set fire to a piece of fustian rag and began blowing the smoke into the hive, when the bees rushed out upon me. Why did they do this? 2nd, What is the proper way to turn up a hive and look into it? 3rd, Can you turn up a hive at any time in the year without injuring the bees, or the bees injuring you? 4th, In smoking or turning up a hive do any of the bees fly about? 5th, When a bee attacks you, is there any sure means of not getting stung? In answer to our correspondent's first question we have to say that the bees rose before they were mastered or affected by the smoke. Being without a board it was difficult to apply the smoke so as to master them. Before a hive is examined it should be well smoked and then gently turned up, and held on the knee or turned up and placed on the ground with the combs and bees exposed to view. As the smoke of fustian rag does no harm to bees, beginners should apply it in abundance in examining hives in summer. Bees may be examined at all seasons without injuring them, but, as bees have weapons of defence and will of their own, we dare not say that they will let the bee-master do as he likes and go scot-free and unscathed. If bees do attack there is no sure way of not getting stung.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Baromet. ter at 32p and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1876.										
Oct.										
We. 4	Inches. 29.830	deg. 64.0	deg. 61.6	S.E.	deg. 55.0	deg. 68.9	deg. 54.2	deg. 111.1	deg. 48.3	—
Th. 5	29.856	61.3	57.8	S.W.	55.5	70.1	54.7	108.0	48.8	0.010
Fri. 6	29.839	61.0	60.1	N.E.	56.0	71.2	54.1	93.5	49.0	0.010
Sat. 7	29.904	68.7	61.6	W.S.W.	57.9	68.4	57.3	87.8	58.5	0.106
Sun. 8	29.956	61.1	60.3	W.S.W.	58.0	66.7	58.4	75.7	53.4	0.438
Mo. 9	29.526	61.2	59.7	S.S.W.	58.2	66.0	60.3	108.0	55.6	0.178
Tu. 10	29.519	55.1	54.8	S.W.	58.0	60.6	55.1	74.1	53.3	0.289
Means.	29.786	61.1	59.4		56.8	67.4	56.8	94.7	51.7	0.641

### REMARKS.

- 4th.—Rain early, then fair but cloudy; a fine day after 10 A.M., splendid sunset, and fine night.  
5th.—Fine morning, fine enjoyable day and night.  
6th.—Morning hazy and damp; fine after, but very warm and close.  
7th.—Dull and showery all day, and at times very dark.  
8th.—Hazy damp morning; rather better in the afternoon, but the stones damp all day.  
9th.—Wind rose rapidly about 2 A.M., and was high all the early part of the day, with frequent slight rain; very bright for a short time in the middle of the day.  
10th.—Wind and rain in the forenoon; gradually improving as the day advanced.  
A warm but not pleasant week, the atmosphere heavy and damp; rain daily since the 4th. Temperature nearly 6° warmer than last week.—G. J. SYMONS.

### COVENT GARDEN MARKET.—OCTOBER 11.

THERE are no alterations in prices from last week. Business remains the same.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples.....	1	6	to	5	Nectarines.....	dozen	1	0	to 6	0	
Apricots.....	dozen	0	0	0	Oranges.....	dozen	0	10	0	24	0
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	2	0	12	0	
Currants.....	1/2 sieve	0	0	0	Pears, kitchen.....	dozen	0	0	0	0	
Black.....	1/2 do.	0	0	0	dessert.....	dozen	2	0	4	0	
Figs.....	dozen	1	0	3	Pine Apples.....	lb.	2	0	6	0	
Filberts.....	lb.	0	6	1	Plums.....	1/2 sieve	7	0	10	0	
Gobies.....	lb.	0	8	1	Quinces.....	bushel	0	0	0	0	
Gooseberries.....	quart	0	0	0	Raspberries.....	lb.	0	0	0	0	
Grapes, hothouse.....	lb.	0	6	0	strawberries.....	lb.	0	0	0	0	
Lemons.....	1/2 100	12	0	18	Walnuts.....	bushel	5	0	8	0	
Melons.....	each	2	0	5	ditto.....	1/2 100	1	6	2	6	

#### VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.		
Artichokes.....	dozen	4	0	to	6	0	Leeks.....	bunch	0	4	to	6	0
Asparagus.....	1/2 100	0	0	0	0	Mushrooms.....	pottle	0	6	1	6		
French.....	bundle	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	0		
Beans, Kidney.....	1/2 lb.	0	8	0	6	Onions.....	bushel	2	0	5	0		
Beet, Red.....	dozen	1	6	8		pickling.....	quart	0	4	0	0		
Broccoli.....	bundle	0	9	1	6	Parsley... doz. bunches	2	0	4	0			
Brussels sprouts 1/2 sieve	3	0	4	0	0	Parsnips.....	dozen	0	0	0	0		
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0		
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	6		
Capisiums.....	1/2 100	1	6	2	0	Kidney.....	do.	3	0	5	0		
Cardiflower.....	dozen	8	0	6	0	Radishes..... doz. bunches	1	0	1	6			
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	9	9	9		
Coleworts..... doz. bunches	3	0	4	0	0	Salsafy.....	bundle	0	9	1	0		
Cucumbers..... each	0	2	0	0	0	Scorzoner.....	bundle	1	0	0	0		
Endive..... dozen	1	0	2	0	0	Seakale.....	basket	0	0	8	0		
Fennel..... bunch	0	3	0	0	0	Shallots..... lb.	0	8	0	6			
Garlic..... 1/2 lb.	0	6	0	0	0	Spinach..... bushel	1	6	2	0			
Herbs..... bunch	0	3	0	0	0	Tomatoes..... 1/2 sieve	4	0	5	0			
Horseradish..... bundle	4	0	0	0	0	Turnips..... bunch	0	4	0	6			
Lettuce..... dozen	0	6	2	0	0	Vegetable Marrows.....	0	2	0	6			

## WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 19—25, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
19	TH	Sale of Mr. Wrigley's Orchids at Stevens's rooms.	59.4	41.7	50.5	6 33	4 57	9 19	5 14	2	15 4	293
20	F		59.0	39.2	49.1	6 34	4 55	10 38	5 41	3	15 14	294
21	S	Sale of Dutch bulbs at Stevens's rooms. 19 SUNDAY AFTER TRINITY.	58.4	39.5	49.0	6 36	4 53	11 48	6 18	4	15 23	295
22	SUN		58.9	42.4	50.6	6 38	4 51	0 47	7 8	5	15 32	296
23	M	Robert Fish died, 1873.	58.2	39.8	49.0	6 40	4 49	1 31	8 10	6	15 40	297
24	TU		56.3	39.6	47.9	6 41	4 47	2 8	9 21	7	15 47	298
25	W	St. CRISPIN.	55.9	38.5	47.2	6 43	4 45	2 26	10 34	8	15 54	299

From observations taken near London during forty-three years, the average day temperature of the week is 58.1°; and its night temperature 40.1°.

## FRUITING VINES IN POTS.



**N**EARLY every gentleman's garden contains a number of Vines which are fruited yearly in pots, and many amateurs who have no established vinery grow Grapes regularly in this way. The growing of Vines in pots for planting and fruiting has become quite an important branch of commerce lately, and some who give special attention to Vines in pots produce them in fine condition; and as the prices are always reasonable, it is gene-

rally the best and cheapest plan to purchase the Vines from some establishment where they are known to be good.

For very early forcing the Vines must be two years old. For instance, those propagated from eyes this spring and grown on throughout the summer will have made good-sized canes which will now be approaching maturity. Early in January the canes are cut down two or three eyes from the root, and the pots are plunged in a bottom heat of 70°. In this the eyes soon start into growth, and when the shoots are a few inches long the pots are taken from the bottom heat and set on the surface of the plunging material for a week or so before turning the roots out of the pots, reducing the old ball of soil and repotting. After this they are again placed in bottom heat until growth has begun, when they are removed to a hard dry bottom of some sort; and at the same time, if all the eyes which were left have started into growth, the whole of them are rubbed-off but one, which is encouraged to grow into as good a cane as possible. These Vines are known as "cut-backs," and when properly managed they are about half grown before those raised from eyes the same spring are started into growth. Of course this great difference at the beginning holds good throughout the season, and consequently the cut-backs are full-grown canes and quite ripe very early in the season—say in July, which is generally the case. Being ripe at that time gives them the advantage of a long rest, and adapts them for starting very early in autumn.

When ripe Grapes are wanted on pot Vines early in April it is necessary to place the Vines in their forcing quarters in October, but it is no use trying to accomplish this unless with cut-back Vines; therefore, let me impress on those intending to start Vines in October to begin with nothing else but thoroughly sound and well-ripened canes of this description. Hard brown wood, and firm well-developed buds, are sure indications of a good cane; but those with no great knowledge of Vines should leave their selection to the person they buy them from. Before placing them in their fruiting quarters each cane should be washed with a brush and soft soap and water, rubbing well about the buds, as insects generally harbour there. Should the canes show spots of mildew brush them over after washing with a mixture of soot, sulphur, and milk. This checks the further progress of this most troublesome pest, and it is much easier dealt with when the leaves are off than on. After washing turn the ball carefully

out of the pot, and see that the drainage at the bottom is in working order. This may be done by lifting straight up by the cane; and if the roots are in good condition the ball will lift entire, and may be dropped into the pot again without a single root being displaced. As the drainage of each one is seen to be correct, after the ball has been returned to the pot scrape away all the surface soil well down into the roots, and top-dress with a rich mixture of loam and cow dung, bringing it firmly up to within 1½ inch from the top, when the remainder of the space may be left empty for receiving water. When this has been completed the Vines are ready for forcing.

In many places there is a small house especially devoted to fruiting Vines in pots, and in such structures there are mostly properly constructed beds, &c., for the Vines to start in. A little bottom heat is a great advantage to the Vines at first, especially in October and November, when they are much more difficult to start into growth than further on in the season. If they can be plunged in a leaf or tan bed where the bottom heat is about 65° or 70° let them be so by all means, and where there is no such convenience set the bottoms of the pots on the hot-water pipes, or some such place, where they will have the benefit of a little heat. For a few weeks at first the rods should rest down near the ground. If the pots are in a bed let the canes rest on the surface, as they are then more in the way of moisture than when tied up to a dry roof. When the pots are plunged not much water is required at the root until the Vines are in leaf, but much more is needed when they are standing on the pipes. When the drainage is right they are not easily injured with too much water at the roots. The canes must be syringed morning and night. For the first three weeks the heat of the house should not exceed 55° at night and 65° during the day, and excepting during the time they are in bloom the temperature should not rise more than 5° above these figures until after the fruit is set. A high temperature to begin with, or indeed at any time throughout the short days, weakens the shoots and greatly diminishes the strength of the Vine; whereas a low temperature at first is always favourable to robust growth and substantial fruitfulness, and when once this is established a high temperature has no injurious influence.

It is tedious work waiting for Vines coming into leaf in November, but they come on gradually, and as soon as the shoots are about 1 inch in length the canes should be tied up into their permanent positions. There may be a number of shoots starting from the base of each bud, and as the canes are tied up all the shoots excepting the strongest should be rubbed off. As the shoots become long they must be fixed to the wires with a strong piece of matting, and when the bunches are formed the shoot should be stopped one or two joints or leaves beyond them. When they are forward enough to admit of this being done they are not far from coming into flower. During the time they are in bloom the temperature must not fluctuate much, and throughout all their early growth in the winter time cold draughts must be

particularly guarded against. Insects, such as thrips and red spider, are not very apt to appear in great numbers in the short days; still, when much fire heat has to be used to keep up the temperature these insects do sometimes become troublesome on early Vines, so that syringing should not be neglected whenever they are known to exist, and the atmosphere should always be kept moist, as this not only tends to keep the foliage healthy; but insects seldom do much harm when the air is in a moist condition.

In very early forcing a good deal of the battle is over when the fruit is formed, and the Vines make much quicker progress after this time than before it. As soon as the fruit begins swelling liberal supplies of manure water must be given two or three times a-week at the roots, and this may be continued until the fruit begins to change colour, when nothing but clean water should be given. Most pot Vines produce more bunches than is sufficient for a crop, and before thinning is commenced all the bunches that are not wanted should be cut off. Of course the worst are always removed first, and the best shaped and set bunches left for the crop. From six to ten is an average crop, but this must be regulated according to the size of the bunches and strength of the Vines; however, it is always better to have one or two bunches less than more than what the Vines will finish properly. When the berries are about the size of peas they must be thinned. Here again it is difficult to say exactly what should be taken or what should be left. In an ordinary way about the half may be thinned out, and the remainder must be left as evenly all over the bunch as possible. After the Grapes are thinned the Vines will bear pushing-on in a higher temperature than they have been growing in up to this time. From November to March there are generally not many opportunities of admitting much air, but the top ventilators especially should always be opened more or less on every favourable opportunity, and sun heat during the day is always preferable to fire heat to keep up the desired temperature. Moisture in the air and at the roots, and stopping the shoots as they grow, are the principal requirements during the latter part of their growth.

In many instances pot Vines are not started so early as October; December and January being the months when most are introduced to their forcing quarters. At this time, or any other throughout the winter, they should be treated as recommended above, as the difference in the time of starting makes no alteration in their cultivation, excepting they grow much quicker as the season advances. It is mostly gentlemen's gardeners and market gardeners who grow Grapes on pot Vines so early, as they save the energies of their planted-out Vines. Amateurs who only grow Grapes on the pot system do not, as a rule, start them until March or April. Their cultivation from then onwards is very simple and far less expensive than in the winter time. In good summers they may be grown without the assistance of any fire heat, and it is nothing like such a difficult matter getting the fruit well coloured in long bright days as in short dull days. Much more water is needed at the roots in the summer time, and more attention is generally required to prevent insects from doing harm. Further than this, their treatment as regards tying, stopping, thinning the bunches, fruit, &c., has to be done in the same way at all times.

When the fruit is ripe the cooler it is kept the better, and after it is cut the foliage should be thoroughly well syringed and cleaned, if the Vines are wanted to fruit the following season. In this case the shoots must be well ripened, and when the leaves have dropped they may be pruned, cutting each shoot back to two buds from the main stem, and washing and top-dressing them as was done the former year. They seldom bear such a fine crop the second time, and many find it most profitable to start with fresh canes every year. For midsummer fruiting, or starting into growth after the days begin to lengthen, it is not necessary to use cut-back Vines. Those raised from eyes and well grown the previous summer, although late in ripening, have a long rest during the winter, and generally fruit and succeed well the following season. These canes are often better to keep for fruiting a second time than the cut-back canes which are older in the root.

Nearly every variety that does well planted out may be fruited in a pot; still there are some better adapted for pot culture than others. The Black Hamburg is the very best for early fruiting, and amateurs seldom fail with it at any time. Gros Colman and Alicante are good late blacks; but late sorts are not so much fruited in pots as early sorts. Amongst early whites Royal Muscadine and Buckland Sweetwater are two well-tried

kinds. Foster's Seedling is not worth growing, as it has no flavour. I have not much experience yet of Duke of Buccleuch in a pot; but while speaking to Mr. W. Thomson the other day he told me he did not care if he did not sell a fruiting cane of the Duke this season, as he would rather keep them and fruit them; so if he can make more by fruiting them than selling the canes at half a guinea each, it speaks pretty well of its worth as a pot variety.—VITIS.

## ASTERS.

THE Aster is one of the most useful of autumn flowers, and it is the more valuable because it can be cultivated and brought to a high state of perfection by those who have no glass houses. The flowers last long in beauty if left on the plants, and for cutting and placing in vases they are much valued. I heard the remark frequently made last season that Asters had done badly; another says "My Asters are poor this year." Now, Asters will always do well if care is taken of them, but they must be watched from the time the seedlings appear until the flowers open.

It is not necessary to sow the seeds under glass; but when a frame can be had with a little bottom heat it is better to do so, as a larger proportion of seeds will germinate in a frame, and the plants grow more strongly in frames for the first few weeks than they do in the open air. The young plants ought to be pricked out as soon as the first leaf is formed. I sow the seed in shallow boxes and also prick out the plants into boxes, allowing sufficient space between the plants so that they may form a stubby compact growth. In their young state they are liable to be attacked by green fly, and this causes the leaves to curl. The best way to destroy the fly is to place the boxes in a house or close frame and smoke them with tobacco, or the insects may be destroyed by washing the plants with soapy water to which has been added tobacco liquor. Asters like a good rich soil well trenched and manured: a soil that would grow good Dahlias would also grow Asters well. The plants may be put out about 6 inches or a foot apart according to the variety. Some sorts will grow between 2 and 3 feet in height, others only a few inches. Until this season I have always grown the dwarf French Chrysanthemum-flowered, the French Pæony-flowered, and the Victoria in preference to the German or Quilled Asters. The above sorts are generally very free-flowering and are of dwarf habit.

After having seen the fine Asters shown by Mr. Betteridge I was this year tempted to give his sorts a trial, and can recommend them as being of a very superior strain and quite indispensable to the exhibitor. They are also preferred to the other sorts for furnishing large vases. The florets are most symmetrically arranged, forming a perfect ball, or rather half ball, at the base of which the outer petals project and form the guard petals. Snowflake and Purple Prince are selfs of the largest size and high-class quality. The first-named has the most perfect flowers, but the other has them of the largest size. Prince of Novelties and Princess Alexandra may be named together as being most striking flowers and very distinct. The guard petals and outer rings of florets are reddish crimson, the centres being pure white. In some of the flowers the white is distinctly marked, in others splashy; and I had a most beautiful flower with light crimson guard petals, while the centre florets were pure white. There are also blue flowers with white centres, also rose-coloured flowers, rose with white centre, &c., comprising at least two dozen distinct varieties. Betteridge's Asters are far superior to the German varieties, and it is a question whether we cannot raise our own seeds instead of importing seeds from Germany and France.—J. DOUGLAS.

## TROPÆOLUM SPECIOSUM.

I AM in a position to endorse every word "A RAMBLER" says about this gorgeous creeper as far as Kenmore toll-house is concerned; and further, I would say that if "RAMBLER" could have had a peep over the railing and bushes to the front of the cottage, about 30 yards from the toll-house on the same side of the road towards Kenmore, a sight of that plant would possibly have been obtained which would have gone far to have put the effect referred to in the shade. This plant is, as "RAMBLER" says, perfectly hardy, requiring no protection or care whatever beyond providing some sort of trellis for it to climb on. The soil in which it is growing there is not of the richest description, but, on the contrary, it is light and porous.

The border in front of the cottage to which I refer, and in which I once lived, is made up to a considerable depth with stones to act as drainage to the cottage, and the soil on the top of these contains a portion of old lime rubbish, and the plant grows there with greater luxuriance than any Canary plant I have ever seen.

I am trying to establish the plant here from those, and I have been successful so far, but it will take years to establish itself in any place like what "A RAMBLER" saw of it at Kenmore toll-house. It has been there now, to my knowledge, for nearly ten years, and it was established there before I saw it; and to see it there now in full flower is a sight not readily to be forgotten.—JAS. FAIRWEATHER.

### GREEN CARPET PLANTS.

SINCE that easily grown and extremely accommodating plant *Tagetes signata pumila* was planted in the beds at the Crystal Palace, the necessity for employing green in carpet-bedding designs has become firmly established. The introduction of green into beds of coloured foliage was a bold innovation, for until then the grass surrounding the beds had been considered sufficient of that neutral colour. That the judicious employment of dwarf plants with green foliage is not only permissible but advantageous for associating with such plants as Golden Feather, crimson *Alternantheras*, &c., many of the best beds both in the public parks and private gardens testify. The green divisional bands separating the brighter panels have added greatly to the finished effect of the beds, and green carpet plants at once became popular.

As was to be expected, other dwarf-growing green carpet plants than the *Tagetes* were sought for, and the result is that some of them have proved extremely suitable for carpet bedding. With the undoubted advantages of the *Tagetes*—its ready growth from seed and its elegantly cut and bright green foliage—must be considered the disadvantage that to keep it sufficiently dwarf and constantly green continued pinchings must be resorted to. That not only involves considerable labour, but the result, especially towards the end of the season, is not always satisfactory. After the pinching has been over and over again repeated the plants become stubby, and instead of the feathery-green surface which is so pleasing, the plants show the pinched stems which destroy at once the softness and smoothness which render the lines so attractive.

In order to obviate the labour of pinching, and as seeking to produce a low smooth carpet of green, *Cerastium arvense* was last year introduced into the carpet beds in Battersea Park. At the first sight this plant was considered a success, but as the season advanced its popularity decreased, its colour being too dull to be permanently satisfying, and it has only been employed to a limited extent during the present season. Taking, therefore, the two plants, *Tagetes* and green *Cerastium*, the former is still the most generally useful, although the latter is not to be despised, especially as it needs no pinching.

Other substitutes for the *Tagetes* have this year been sought for at the Crystal Palace, and in the excellent beds there some of the dwarf *Saxifrages* have been employed, such as *Saxifraga hypnoides*, *S. Gmelini*, and others; also the green *Mesembryanthemum cordifolium*. The latter plant, which grows more vigorously than *M. cordifolium variegatum*, is too robust for the chaste designs of small beds; and the *Saxifrages*, while being both dwarf and green, have a more or less tufty appearance, and cannot be considered as perfect green carpet plants, and so far as these plants are concerned the *Tagetes* is still not superseded.

But there are other plants remaining to be noticed, and these we find in a private garden the fame of which has become widely spread. In Mr. Ralli's garden at Cleveland House, Clapham Park, are two green carpet plants which may be fairly considered to take the foremost place in carpet-bedding arrangements, and which cannot fail to be largely used where this style of flower-garden decoration is adopted. Both these plants are hardy, both are of a bright refreshing green, and both are dwarf requiring no pinching. Mr. Legg, besides having the honour of producing the most perfect carpet beds which have yet been seen, has the credit of introducing into this mode of decoration the two perfect green cushion plants, *Sedum Lydium* and *Mentha Pulegium gibraltaria*. Hundreds of people have by the kindness of Mr. Ralli seen these plants during the present season, and in all probability not one has been able to find fault with them. That in these days of criticism is high praise.

It is certain that these plants will spread largely and will be planted in many gardens next year. Both are extremely effective, and they serve two distinct purposes in carpet bedding. For narrow lines, chains, and connecting links the *Mentha* is pre-eminently suitable. For this purpose no other green cushion plant can approach it. At Cleveland House it is planted in a series of loops, like the links in a chain, down the centre of a long bed, the spaces between the links and the angles of the bed being filled with very dwarf plants of Golden Feather. It is an extremely simple arrangement; but few, if any, beds outside the same garden can be found which are equally striking. In all probability the ground on which the *Mentha* chain is laid has been slightly raised above the general level of the bed. At any rate the *Mentha* shows clearly and distinctly above the golden ground of the *Pyrethrum*. Anything in its way more effective than this combination of green and gold can scarcely be imagined.

But while the *Mentha* is specially adapted for lines of say 6 inches in width, *Sedum Lydium* for forming a broad expanse of green as a groundwork, for a pattern wrought out in brighter colours, is particularly suitable. In the flower garden referred to this *Sedum* is employed in both ways—that is, it is made to form green divisional lines 5 or 6 inches wide separating brighter colours, and it is also employed in a broader expanse and forms the groundwork for a coloured design. In the former case it is effective, but in the latter it is especially charming, and it is possibly the finest of all dwarf bedding plants for producing a broad groundwork of the brightest green. In order, however, that it may continue really green and refreshing it must be planted in good soil and be kept regularly supplied with water. If planted in poor soil, or allowed to become very dry, the foliage is apt to turn brown, which considerably mars its beauty. It is free-growing, attaining a height of 3 or 4 inches, producing a cushion-like surface at once close and elegant.

Both this *Sedum* and the *Mentha*, as before remarked, are perfectly hardy, which renders them the more valuable. They are sure to be much sought after by those who "go in" for carpet bedding, and no small credit is due to Mr. Legg for showing the great decorative qualities of two such useful plants.

The *Mentha*, it may be useful to add, is a *Pennyroyal*—the Gibraltar *Pennyroyal*, and apparently differing from the English type in the more erect growth of the former. Possibly there will be those who will now try our old garden herb as a green carpet-bedding plant, which may, perhaps, be elevated from an obscure corner in the kitchen garden to a prominent place on the terrace; in the flower garden it may yet become popular, especially if it is known by its name of *Mentha Pulegium*; "*Pennyroyal*" would scarcely do near the drawing-room windows. The fame of its Spanish congener is already established as the foremost of green cushion plants for artistic gardening.—A PARK GARDENER.

[The *Mentha* alluded to is probably the *M. Pulegium erecta* of Miller. Miller states that he grew seventeen species or varieties of *Pennyroyal*, and the one in question he had from Gibraltar. It speedily became popular in this country as a market herb, its taller growth rendering it better capable of being cut and tied in bunches than the English *Pennyroyal*. Apparently the same plant is mentioned by Don under the name of *M. Pulegium tomentosa*, which name is appropriate, for the stems and leaves of the plants are downy, although this is not perceptible unless it is closely examined, its general appearance being bright green and shining. By Willdenow it is named *M. Pulegium gibraltaria*, and it is simply noticed as a variety of the common *Pennyroyal*.—Eds.]

### CRAWFORD'S EARLY PEACH.

NINE years ago in renewing the trees on a south Peach wall at another residence belonging to my employer I, amongst others, had two trees of the above variety planted. These, which were subjected to ordinary treatment, have done well, and produced in common with the others good crops of regular-sized fruit of average quality. I was so much struck with the appearance of the fruit on these trees that I determined to introduce the variety into the gardens here, which I did in the spring of 1872, where under my personal management it has fully sustained its good character, and I have been rewarded with some examples of fruit which have surpassed even such



kinds as Noblesse and other large kinds on the exhibition table. I consider Crawford's Early to be as reliable in its bearing properties as other kinds; such has been the result of my experience of it here.

All practical men must admit that the yellow-fleshed section of Peaches has not yet attained the excellence which some of the light-fleshed sorts, as Royal George and kindred kinds, possess. At those places where space admits of only two kinds of Peach trees being cultivated Crawford's Early may with propriety be omitted; but, on the other hand, with those whose means will allow more variety by all means plant it, as it is a desirable variety, and under suitable conditions of cultivation it will reward the grower with not a few noble examples of the most attractive Peach in cultivation.

Possibly the dish of this variety which I contributed at the meeting of the Royal Horticultural Society's Fruit Committee, September 6th, which obtained a cultural certificate, is one of those referred to by your correspondent Mr. J. Taylor; and as the extra fruit which were supplied beyond the requisite number for the dish on that occasion were all consumed, that is not a bad comment as to its quality.—GEORGE THOS. MILES, Wycombe Abbey.

### VOTES IN ELECTION OF ROSES.

(Continued from page 324.)

Mr. EDWARD MAWLEY, Lucknow House, Croydon.

- |                              |                               |
|------------------------------|-------------------------------|
| 1. Baronne de Rothschild     | 26. Jules Margottin           |
| 2. Charles Lefebvre          | 27. Etienne Levét             |
| 3. Marie Baumann             | 28. Dupuy Jamain              |
| 4. Alfred Colomb             | 29. Anna de Diesbach          |
| 5. Mdlle. Eugénie Verdier    | 30. Cheshunt Hybrid           |
| 6. Madame Lacharme           | 31. Comtesse de Serenyi       |
| 7. Maréchal Niel             | 32. Belle Lyonnaise           |
| 8. Souvenir d'un Ami         | 33. Paul Neron                |
| 9. Victor Verdier            | 34. Louis Van Houtte          |
| 10. François Michelon        | 35. Marquise de Mortemart     |
| 11. Marquise de Castellane   | 36. Duke of Edinburgh         |
| 12. Alba Rosea               | 37. Coupe d'Hébé              |
| 13. Pierre Notting           | 38. Cloth of Gold             |
| 14. John Hopper              | 39. Marie Rady                |
| 15. Duc de Rohan             | 40. Felix Genere              |
| 16. Comtesse d'Oxford        | 41. Céline Forestier          |
| 17. Sénateur Vaisse          | 42. Camille Bernardin         |
| 18. Dr. Andry                | 43. Madame Clémence Joigneaux |
| 19. La France                | 44. Prince de Portia          |
| 20. Reynolds Hole            | 45. Monsieur Woolfield        |
| 21. Gloire de Dijon          | 46. Emilie Hausburg           |
| 22. Devoniensis              | 47. Prince Camille de Rohan   |
| 23. Niphotos                 | 48. Xavier Olibo              |
| 24. Souvenir de la Malmaison | 49. Madame Victor Verdier     |
| 25. Centifolia Rosea         | 50. Comtesse de Chabillant    |

Mr. J. MAYO, Cornmarket Street, Oxford.

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|-----------------------------|-----------------------------|
| 1. Alfred Colomb            | 26. Duc de Rohan            |
| 2. Baronne de Rothschild    | 27. Dupuy Jamain            |
| 3. Baron A. de Rothschild   | 28. Duke of Wellington      |
| 4. Charles Lefebvre         | 29. Edward Morren           |
| 5. Comtesse de Serenyi      | 30. Ferdinand de Lesseps    |
| 6. Dr. Andry                | 31. Horace Vernet           |
| 7. Etienne Levét            | 32. Le Havre                |
| 8. Emilie Hausburg          | 33. Louis Van Houtte        |
| 9. François Michelon        | 34. Maréchal Vaillant       |
| 10. Hippolyte Jamain        | 35. Madame G. Schwartz      |
| 11. John Hopper             | 36. Madame Lacharme         |
| 12. La France               | 37. Madame C. Wood          |
| 13. Madame Hippolyte Jamain | 38. Mdlle. Thérèse Levét    |
| 14. Madame Victor Verdier   | 39. Mdlle. Marie Cointet    |
| 15. Mdlle. Eugénie Verdier  | 40. Marguerite de St. Amand |
| 16. Mdlle. Marie Rady       | 41. Marquise de Castellane  |
| 17. Marie Baumann           | 42. Maurice Bernardin       |
| 18. Catherine Mermét        | 43. Prince Camille de Rohan |
| 19. Marie Van Houtte        | 44. Sénateur Vaisse         |
| 20. Maréchal Niel           | 45. Xavier Olibo            |
| 21. Auguste Rigotard        | 46. Devoniensis             |
| 22. Beauty of Waltham       | 47. Madame Willermoz        |
| 23. Camille Bernardin       | 48. Souvenir de Paul Neron  |
| 24. Comtesse d'Oxford       | 49. Baron Gonella           |
| 25. Devienne Lamy           | 50. Gloire de Santenay      |

Mr. J. MOSELEY, Pine Villas, Heaton Mersey, near Manchester.

- |                            |                              |
|----------------------------|------------------------------|
| 1. Alfred Colomb           | 15. Sénateur Vaisse          |
| 2. Charles Lefebvre        | 16. Victor Verdier           |
| 3. Comtesse d'Oxford       | 17. Souvenir de la Malmaison |
| 4. Duke of Edinburgh       | 18. Belle Lyonnaise          |
| 5. Edward Morren           | 19. Gloire de Dijon          |
| 6. John Hopper             | 20. Maréchal Niel            |
| 7. La France               |                              |
| 8. Lord Macanlay           | 21. Annie Laxton             |
| 9. Louis Van Houtte        | 22. Annie Wood               |
| 10. Baronne de Rothschild  | 23. Beauty of Waltham        |
| 11. Madame Victor Verdier  | 24. Boule de Neige           |
| 12. Mdlle. Eugénie Verdier | 25. Duke of Wellington       |
| 13. Marie Baumann          | 26. Dupuy Jamain             |
| 14. Marquise de Castellane | 27. Fisher Holmes            |

28. François Lacharme
29. Général Jacqueminot
30. Horace Vernet
31. Jules Margottin
32. Lyonnais
33. Madame Lacharme
34. Madame Vidot
35. Mdlle. Marie Rady
36. Maurice Bernardin
37. Miss Ingram
38. Etienne Levét
39. François Michelon

Rev. C. P. PEACH, Appleton-le-Street, Malton.

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|--------------------------------|------------------------------|
| 1. Alfred Colomb               | 26. Comtesse de Chabillant   |
| 2. Baronne de Rothschild       | 27. Duke of Wellington       |
| 3. Charles Lefebvre            | 28. Elie Morel               |
| 4. Comtesse d'Oxford           | 29. Horace Vernet            |
| 5. Dr. Andry                   | 30. Général Jacqueminot      |
| 6. Dupuy Jamain                | 31. Madame Lacharme          |
| 7. Etienne Levét               | 32. Madame Caillat           |
| 8. Emilie Hausburg             | 33. Madame C. Joigneaux      |
| 9. Fisher Holmes               | 34. Mdlle. Thérèse Levét     |
| 10. François Michelon          | 35. Madame Victor Verdier    |
| 11. John Hopper                | 36. Madame Vidot             |
| 12. La France                  | 37. Mdlle. Eugénie Verdier   |
| 13. Louis Van Houtte           | 38. Maréchal Vaillant        |
| 14. Marguerite de St. Amand    | 39. Mdlle. Marie Cointet     |
| 15. Marie Baumann              | 40. Maurice Bernardin        |
| 16. Marie Rady                 | 41. Madame C. Wood           |
| 17. Marquise de Castellane     | 42. Pierre Notting           |
| 18. Princess Mary of Cambridge | 43. Sénateur Vaisse          |
| 19. Gloire de Dijon            | 44. Reynolds Hole            |
| 20. Maréchal Niel              | 45. Thomas Methven           |
| 21. Abel Grand                 | 46. Victor Verdier           |
| 22. Annie Wood                 | 47. Xavier Olibo             |
| 23. Annie Laxton               | 48. Céline Forestier         |
| 24. Antoine Ducher             | 49. Souvenir de la Malmaison |
| 25. Camille Bernardin          | 50. Souvenir d'un Ami        |

Mr. ROBSON, Glenholme, Tor Park, Torquay.

- |                            |                             |
|----------------------------|-----------------------------|
| 1. Alfred Colomb           | 26. Annie Laxton            |
| 2. Charles Lefebvre        | 27. Antoine Ducher          |
| 3. Baronne de Rothschild   | 28. Baron de Bonstetten     |
| 4. Madame Victor Verdier   | 29. Bessie Johnson          |
| 5. Mdlle. Eugénie Verdier  | 30. Camille Bernardin       |
| 6. Mdlle. Marie Finger     | 31. Capitaine Christy       |
| 7. Maréchal Niel           | 32. Docteur de Chalus       |
| 8. Marie Baumann           | 33. Dupuy Jamain            |
| 9. Pierre Notting          | 34. Edward Morren           |
| 10. Comtesse d'Oxford      | 35. Emilie Hausburg         |
| 11. Devoniensis            | 36. Gloire de Dijon         |
| 12. Dr. Andry              | 37. Horace Vernet           |
| 13. Duke of Edinburgh      | 38. John Hopper             |
| 14. Etienne Levét          | 39. Madame C. Wood          |
| 15. Ferdinand de Lesseps   | 40. Madame C. Joigneaux     |
| 16. François Michelon      | 41. Madame Lacharme         |
| 17. Marie Van Houtte       | 42. Madame Willermoz        |
| 18. Marquise de Castellane | 43. Marguerite de St. Amand |
| 19. La France              | 44. Monsieur Noman          |
| 20. Louis Van Houtte       | 45. Paul Neron              |
| 21. Star of Waltham        | 46. Prince Camille de Rohan |
| 22. Hippolyte Jamain       | 47. Richard Wallace         |
| 23. Souvenir d'un Ami      | 48. Reynolds Hole           |
| 24. Souvenir d'Elise       | 49. Princess Beatrice       |
| 25. Annie Wood             | 50. Marquise de Gibot       |

Mr. ALFRED RYLAND, King's Heath, near Birmingham.

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|-----------------------------|-------------------------------|
| 1. Baronne de Rothschild    | 26. Duke of Wellington        |
| 2. Alfred Colomb            | 27. Edward Morren             |
| 3. Charles Lefebvre         | 28. Emilie Hausburg           |
| 4. Duke of Edinburgh        | 29. Exposition de Brie        |
| 5. Etienne Levét            | 30. Ferdinand de Lesseps      |
| 6. François Michelon        | 31. Fisher Holmes             |
| 7. Comtesse d'Oxford        | 32. Camille Bernardin         |
| 8. John Hopper              | 33. Madame C. Wood            |
| 9. La France                | 34. Madame Clémence Joigneaux |
| 10. Louis Van Houtte        | 35. Madame G. Schwartz        |
| 11. Madame Victor Verdier   | 36. Maurice Bernardin         |
| 12. Mdlle. Eugénie Verdier  | 37. Paul Neron                |
| 13. Mdlle. Marie Rady       | 38. Prince Camille de Rohan   |
| 14. Marguerite de St. Amand | 39. Victor Verdier            |
| 15. Marie Baumann           | 40. Souvenir de la Malmaison  |
| 16. Marquise de Castellane  | 41. Belle Lyonnaise           |
| 17. Pierre Notting          | 42. Catherine Mermét          |
| 18. Sénateur Vaisse         | 43. Devoniensis               |
| 19. Xavier Olibo            | 44. Gloire de Dijon           |
| 20. Maréchal Niel           | 45. Madame Willermoz          |
| 21. Abel Grand              | 46. Niphotos                  |
| 22. Beauty of Waltham       | 47. Souvenir d'Elise          |
| 23. Dupuy Jamain            | 48. Céline Forestier          |
| 24. Dr. Andry               | 49. Souvenir d'un Ami         |
| 25. Duchesse de Caylus      | 50. Horace Vernet             |

Mr. J. SCOTT, Warminster.

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|-------------------------|----------------------------|
| 1. Alfred Colomb        | 10. Horace Vernet          |
| 2. Charles Lefebvre     | 11. François Michelon      |
| 3. Comtesse d'Oxford    | 12. La France              |
| 4. Capitaine Christy    | 13. Louis Van Houtte       |
| 5. Duke of Wellington   | 14. Baronne de Rothschild  |
| 6. Duke of Edinburgh    | 15. Marie Baumann          |
| 7. Etienne Levét        | 16. Marquise de Castellane |
| 8. Ferdinand de Lesseps | 17. Xavier Olibo           |
| 9. Fisher Holmes        | 18. Catherine Mermét       |

19. Souvenir d'un Ami
20. Maréchal Niel
21. Annie Laxton
22. Beauty of Waltham
23. Camille Bernardin
24. Dr. Andry
25. Dupuy Jamin
26. Edward Morren
27. John Hopper
28. Madame Clémence Joigneaux
29. Madame Victor Verdier
30. Mlle. Eugénie Verdier
31. Mlle. Marie Rady
32. Mlle. Marie Cointet
33. Madame Nachury
34. Marquise de Mortemart
35. Paul Neron
36. Sénateur Vaisse
37. Prince Camille de Rohan
38. Victor Verdier
39. Souvenir de John Gould Veitch
40. Devonienis
41. Cheshunt Hybrid
42. Madame Camille
43. Madame Margottin
44. Madame Willermoz
45. Niphotos
46. Souvenir de Paul Neron
47. Souvenir d'Elise
48. Gloire de Dijon
49. Star of Waltham
50. Triomphe de Rennes

Mr. J. T. SMALLBONES, Chatteris, Cambs.

1. Abel Grand
2. Alfred Colomb
3. Baronne de Rothschild
4. Charles Lefebvre
5. Dr. Andry
6. Duchesse de Caylus
7. Duchess of Edinburgh
8. Etienne Levat
9. Emilie Hausburg
10. Ferdinand de Lesseps
11. Horace Vernet
12. La France
13. Louis Van Houtte
14. Comtesse de Serenyi
15. Madame C. Crapet
16. Madame Victor Verdier
17. Marie Baumann
18. Pierre Notting
19. Sénateur Vaisse
20. Maréchal Niel
21. Annie Wood
22. Baronne de Bonstetten
23. Camille Bernardin
24. Comtesse de Chabillant
25. Duc de Rohan
26. Duke of Edinburgh
27. Edward Morren
28. Elie Morel
29. Etienne Dupuy
30. Exposition de Brie
31. Felix Genero
32. François Michelin
33. Madame Furtado
34. John Hopper
35. Madame Caillat
36. Madame Lacharme
37. Madame Rivers
38. Madame Vidot
39. Mlle. Eugénie Verdier
40. Mlle. M. Dombain
41. Marie Rady
42. Maurice Bernardin
43. Monsieur Noman
44. Madame Charles Wood
45. Reynolds Hole
46. Souvenir de la Malmaison
47. Miss Hassard
48. Monsieur E. Y. Teas
49. Sir G. Wolsley
50. Olivier Delhomme

Mr. RICHARD TAPNER, Crowhurst, Sussex.

1. Charles Lefebvre
2. Gloire de Dijon
3. Maréchal Niel
4. François Michelin
5. Emilie Hausburg
6. La France
7. Marie Baumann
8. Sénateur Vaisse
9. Madame Willermoz
10. Exposition de Brie
11. Camille Bernardin
12. Reynolds Hole
13. Baronne de Rothschild
14. Etienne Levat
15. Alfred Colomb
16. Pierre Notting
17. Edward Morren
18. Marquise de Castellane
19. Duke of Edinburgh
20. Wilson Saunders
21. Annie Wood
22. Madame Nachury
23. Ferdinand de Lesseps
24. Belle Lyonnaise
25. Princess Beatrice
26. Marie Finger
27. Dr. Andry
28. Princess Mary of Cambridge
29. Général Jacqueminot
30. Auguste Rigotard
31. John Hopper
32. Catherine Mermet
33. Perle de Lyon
34. Louis Van Houtte
35. Capitaine Christy
36. Cheshunt Hybrid
37. Xavier Olibo
38. Horace Vernet
39. Duke of Wellington
40. Prince Camille de Rohan
41. Solfaterra
42. Paul Verdier
43. Duchesse de Caylus
44. Comtesse d'Oxford
45. Devonienis
46. Richard Wallace
47. Madame Lacharme
48. Thomas Mills
49. Souvenir d'un Ami
50. Monsieur Woolfield

Mr. WATKINS, Gardener to Mr. E. T. W. WOOD, Henley Hall, Salop.

1. Alfred Colomb
2. Baronne de Rothschild
3. Maréchal Niel
4. La France
5. Lyonnais
6. Xavier Olibo
7. Reynolds Hole
8. President Thiers
9. Pierre Notting
10. Marquise de Castellane
11. Marie Rady
12. François Michelin
13. Paul Neron
14. Prince Camille de Rohan
15. Charles Lefebvre
16. Devonienis
17. Dr. Andry
18. Comtesse d'Oxford
19. Général Jacqueminot
20. Gloire de Dijon
21. Boule de Neige
22. Capitaine Christy
23. Dupuy Jamin
24. Duke of Wellington
25. Edward Morren
26. Fisher Holmes
27. Horace Vernet
28. Louis Van Houtte
29. Madame C. Crapet
30. Madame Clémence Joigneaux
31. Madame Vidot
32. Madame Charles Wood
33. Madame Lacharme
34. Madame Victor Verdier
35. Madame Margottin
36. Madame Willermoz
37. Mlle. Marie Finger
38. Marie Baumann
39. Maréchal Vaillant
40. Etienne Dupuy
41. Maurice Bernardin
42. Souvenir de la Malmaison
43. Belle Lyonnaise
44. Catherine Mermet
45. Duc de Magenta
46. Marie Ducher
47. Marie Van Houtte
48. Perle de Lyon
49. Souvenir d'Elise "
50. Beauty of Waltham

Mr. W. W. WOOTEN, Headington House, Oxon.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. Comtesse de Serenyi
5. Devonienis
6. Duke of Edinburgh
7. Edward Morren
8. Emilie Hausburg

9. Etienne Levat
10. Ferdinand de Lesseps
11. Henri Pages
12. Hippolyte Jamin
13. La France
14. Maréchal Niel
15. Marie Baumann
16. Mons. E. Y. Teas
17. Marquise de Castellane
18. Niphotos
19. Sir Garnet Wolsley
20. Victor Verdier

21. Alba Mutabilis
22. Baron de Bonstetten
23. Belle Lyonnaise
24. Capitaine Christy
25. Capitaine Lamure
26. Catherine Mermet
27. Charles Lawson
28. Clémence Raoux
29. Comtesse d'Oxford

"AN AMATEUR," South of Ireland.

1. Maréchal Niel
2. Charles Lefebvre
3. Duke of Edinburgh
4. Marie Baumann
5. Alfred Colomb
6. La France
7. Baronne de Rothschild
8. Comtesse d'Oxford
9. Thos. Mills
10. Baron de Bonstetten
11. Marquise de Castellane
12. Louis Van Houtte
13. François Michelin
14. Princess of Wales
15. Capitaine Christy
16. Camille Bernardin
17. Xavier Olibo
18. Mlle. Thérèse Levat
19. Pierre Notting
20. John Hopper

21. Madame Victor Verdier
22. Madame Levat
23. Madame C. Joigneaux
24. Madame Willermoz
25. Madame George Schwartz

Capt. ROCHFORD, Thornton, Dunlavin, Ireland.

1. Gloire de Dijon
2. La France
3. Sophie Coquerel
4. Boule de Neige
5. Duke of Edinburgh
6. Général Jacqueminot
7. Charles Lefebvre
8. Louis Van Houtte
9. Prince Camille de Rohan
10. Triomphe de Casen
11. Madame Clémence Joigneaux
12. Madame Victor Verdier
13. Marguerite de St. Amand
14. Baron de Bonstetten
15. Sénateur Vaisse
16. Souvenir de William Wood
17. Marquise de Castellane
18. Comtesse de Chabillant
19. François Michelin
20. Maréchal Niel

21. Anna de Diesbach
22. Madame Vidot
23. Madame Boutin
24. Baronne de Rothschild
25. Madame Lacharme

Mr. JOHN TURTLE, Peacefield, Portadown, Ireland.

1. Sénateur Vaisse
2. Gloire de Dijon
3. Alfred Colomb
4. Charles Lefebvre
5. Duc de Cazes
6. Prince Camille de Rohan
7. Dr. Andry
8. Abbé Brammer
9. Baronne de Rothschild
10. Louis Van Houtte
11. Marie Baumann
12. Maréchal Niel
13. La France
14. Comtesse d'Oxford
15. Etienne Levat
16. John Hopper
17. Duke of Edinburgh
18. Horace Vernet
19. Marquise de Castellane
20. Jules Margottin
21. Madame Lacharme
22. Abel Grand
23. Fisher Holmes
24. Madame Victor Verdier
25. Mlle. Eugénie Verdier
26. Devonienis
27. Pierre Notting
28. Mlle. Marie Rady
29. Ferdinand de Lesseps
30. Camille Bernardin
31. Edward Morren
32. Madame Charles Wood
33. Mlle. Annie Wood
34. Duchesse de Morny
35. Charles Lawson
36. Baron Prevost
37. Xavier Olibo
38. Emilie Hausburg
39. Souvenir d'un Ami
40. Marguerite de St. Amand
41. François Michelin
42. Mlle. Marie Cointet
43. Comtesse de Chabillant
44. Auguste Rigotard
45. Comtesse de Serenyi
46. Duchesse de Caylus
47. Antoine Ducher
48. Madame Vidot
49. Monsieur Noman
50. Reynolds Hole

Mr. DAVID TURTLE, Aghalee, Ireland.

This list is not included in the twenty-nine amateurs, but is included in the Irish table.

- |                             |                              |
|-----------------------------|------------------------------|
| 1. Sénateur Vaisse          | 25. Comtesse de Chabrilant   |
| 2. Gloire de Dijon          | 26. La Brillante             |
| 3. La France                | 27. Duchesse de Caylus       |
| 4. John Hopper              | 28. Charles Lawson           |
| 5. Duke of Edinburgh        | 29. Duc de Rohan             |
| 6. Duchesse de Morny        | 30. Comtesse d'Oxford        |
| 7. Abbé Brammerel           | 31. Triomphe de Caen         |
| 8. Alfred Colomb            | 32. Beauty of Waltham        |
| 9. Baronne de Rothschild    | 33. Professor Koch           |
| 10. Baronne Prevost         | 34. Edward Morren            |
| 11. Abel Grand              | 35. Fisher Holmes            |
| 12. Antoine Ducher          | 36. Lord Clyde               |
| 13. Boule de Neige          | 37. William Griffiths        |
| 14. Charles Lefebvre        | 38. Général Jacqueminot      |
| 15. Louis Van Houtte        | 39. Jean Cherpin             |
| 16. Duc de Cazes            | 40. Jules Margottin          |
| 17. Prince Camille de Rohan | 41. Lord Macaulay            |
| 18. Marie Baumann           | 42. Dr. Andry                |
| 19. Annie Wood              | 43. Mlle. Eugénie Verdier    |
| 20. Pierre Notting          | 44. Prince Léon              |
|                             | 45. Marquise de Mortemart    |
| 21. Monsieur Noman          | 46. Monsieur Boncenne        |
| 22. Paul Verdier            | 47. Souvenir de la Malmaison |
| 23. Victor Verdier          | 48. Maurice Lepelletier      |
| 24. Marquise de Castellane  | 49. Comtesse Jaucourt        |

### GREASY COAT APPLE.

THIS local name strikes one as being very appropiat to the Apple referred to by "J., *Lincolnshire*," and "J. J., *Lancashire*," and, like them, I think there are few if any to excel it as an autumn culinary Apple. From the description given of it in the Journal, page 298, I have no doubt of it being the same variety known in some parts of Scotland as the Irish Codlin, Manks Codlin, and Irish Pitcher of Dr. Hogg. The Apple is grown here, but I regret to say we have no fruit of it this year, or I should have had much pleasure in forwarding you specimens for examination, that you might be the better able to compare them with descriptions and examples from your other correspondents.—J. F.

[Manks Codlin and Transparent Codlin are distinct sorts. Both are excellent autumn Apples, and both have greasy skins.—EDS.]

### ROYAL HORTICULTURAL SOCIETY.

THERE appears to be a very laudable disposition on the part of those who are interested in the success and advancement of horticulture at the present time to do whatever lies in their power to promote the usefulness and welfare of the Royal Horticultural Society—a Society which, notwithstanding the great benefits it has conferred on the country, has fared as badly as if it had been guilty of some great national crime. The tide of public opinion has lately turned in its favour, and it is to be hoped that this will go on advancing till the Society receives that justice which is its due. The dissensions promoted and fostered by a small party of local Fellows at South Kensington, who thought more of their own little wants than of the common good, have served for several years past to keep the Society in a state of chronic dispeace, and the only result of their agitation has been to bring about such a state of things as will in all probability deprive them of the use and amenity which an agreeable promenade has for some years past afforded them.

The result of all this points to a termination of the agreements between the Royal Commissioners and the Society; and thoughtful men, foreseeing what must inevitably arise, are considering in what way the Society can best be constituted for the future. We publish to-day two such propositions, one by Lord Alfred S. Churchill and the other by Mr. G. F. Wilson. We commend both to the consideration of the Fellows, and without giving a decided opinion upon either we hope that the subject will receive careful consideration, and that some useful and practical scheme will be devised. All we can say for the present is that we trust the Fellows will stick by the Society, and thereby enable it to start a new life with as great or greater vigour than it has yet manifested for some years past.

THE question of reconstructing the Royal Horticultural Society is beginning to attract attention. It is high time that it should do so, and that some definite scheme should be prepared before the annual meeting of the Society in February next.

If the horticulturists throughout the country could only agree upon the principles on which this could be best effected it would materially strengthen the hands of the Council in

their negotiations with the Commissioners. It is the belief that the Society is past resuscitation that has induced the Commissioners to treat it in the cavalier manner they have done lately.

I enclose the outline of a scheme as a basis on which the Society's reconstruction could be effected. In doing this I have no wish to put it forward as the only one likely to answer; it is solely my own idea, which I submit for consideration in conjunction with others that may be proposed.—ALFRED S. CHURCHILL.

#### SUGGESTIONS BY LORD ALFRED S. CHURCHILL.

1. Bye-laws to be altered.
2. Fellowships, £2 2s. No entrance fees.
3. Associateships, £1 ls.
4. Gardeners in the employment of Fellows, 10s. 6d.
5. All voting power to be confined to Fellows paying £2 2s.
6. Provincial shows to be encouraged.
7. Quarterly journal to be published and supplied gratis to Fellows. Associates to pay half price.
8. Fellows, Associates, and subscribing Gardeners to have free admission to Chiswick Gardens, and to all shows either in the provinces or in London given or promoted by the Royal Horticultural Society.
9. Fellows and Associates to have the power of admitting friends to Chiswick either by order or personally.
10. Provincial horticultural societies subscribing to the Royal Horticultural Society five guineas per annum to receive two silver and two bronze medals, also copy of journal. Ditto subscribing three guineas, to have two bronze medals and journal only. N.B.—And so on for every five or three guineas subscribed.
11. The President or Secretary of subscribing societies to be an *ex-officio* Fellow of the Society during the time he may continue to hold his office, and to vote at all meetings on behalf of his society.
12. The Secretary of Royal Horticultural Society to open communications with foreign horticultural societies, and publish a precise copy of correspondence in journal.
13. Shows and meetings to be held in London by arrangement with Her Majesty's Commissioners.
14. Scientific Committee to be held as at present, and verbatim reports of proceedings to be published in journal.

#### SUGGESTIONS BY MR. G. F. WILSON.

REASONS for joining the Royal Horticultural Society as Fellows paying guinea subscriptions:—

The Society is doing important and useful work, which benefits all who value their gardens or who care for fruit, vegetables, or flowers.

The Scientific Committee is now the recognised authority on all subjects connected with plant life, disease, and plagues, and does much other valuable work.

Its Fruit and Floral Committees examine new fruits, vegetables, and flowers, work which can only be done by a great central society. Their judgments, immediately published by means of the gardening press, are now received with respect, and acted upon all through the country.

In the Society's garden at Chiswick flowers, fruit, and vegetables are grown side by side, are tested and judged by the highest authorities, and troublesome synonyms got rid of.

The Society, being relieved from the heavy charge of South Kensington, will have only Chiswick Garden to keep up, and to provide for shows and committee meetings if possible at South Kensington, otherwise in the neighbourhood; the great country shows will be self-supporting.

The guinea subscription will enable good horticulturists to come into the Society from every corner of the kingdom.

It is hoped that some of the old supporters of the Society who have long paid their four-guinea subscriptions will, at least for a time, continue to do so, and that some wealthy and enthusiastic horticulturists will join their number. The subscribers of not less than four guineas will be called Patron Fellows.

As soon as the Council of the Royal Horticultural Society can arrange with H.M. Commissioners of 1851 in the interest of the debenture-holders the lease of the South Kensington Garden will be surrendered, and it may be expected that the subscriptions of those Fellows who paid to get the exercise ground for their children will be discontinued. It is therefore most desirable that new Fellows should be in readiness to supply their place. It was lately suggested to form a large and influential Committee headed by the Editors of the four leading London horticultural journals (to show unanimity of feeling, at least in the leaders). This Committee to bind itself to nothing but to aid in bringing in guinea Fellows when the Society is freed from its present incumbrances. Three out of the four Editors have given their names; the fourth, being Secretary of the Society, can hold no other position.

Very influential gardening names have already been received

and are constantly coming in. It was decided not to publish names till the list was a very long one.

The privileges which can at present be stated as accruing to the guinea fellowships are admittance to all the Society's shows in London and in the provinces, and to all minor exhibitions of fruit and flowers held at the fortnightly Committee meetings, and daily admittance to the Chiswick Gardens (Sundays excepted).

I, the undersigned, authorise you to add my name to the list of Fellows of the Royal Horticultural Society paying an annual subscription of one guinea, upon the understanding that I incur no further liability.

\*I further consent to my name being placed on the list of the Committee now being formed to aid in obtaining a large accession of Fellows at the same rate of subscription.

Signature,

Address,

\*This to be struck out if there is an objection to joining the Committee.

## NOTES OF A SCOTTISH TOUR.—No. 5.

HELENSBURGH, LOCH LOMOND, AND EDINBURGH.

I HAVE already, in writing of the West of Scotland Rose Show, alluded to the thriving watering place Helensburgh, and to the thoroughly hospitable character of the welcome I received; my recurring to it again is for the purpose of saying a few words on the establishment of Messrs. Robertson & Galloway. I am the more induced to do this because of the very prominent position taken by Mr. Galloway as an exhibitor of one of my favourite flowers—the *Gladiolus*, and I was naturally desirous of seeing him and his flowers at home. Unfortunately, as far as the nursery was concerned it was an unpropitious time, for they were about to remove, and consequently everything was in a transition state; but I saw enough to convince me that the same energy and skill which have enabled one of the firm to occupy so leading a position as a grower of *Gladiolus* is being carried out in the other departments of the business.

It is at Mr. Galloway's own house or cottage that the cultures of the *Gladiolus* are carried on; and I was perfectly astonished to find so small a space occupied by them, when I recollected that he had come up some three hundred miles and had beaten, and well beaten, our champion grower on his own ground (a feat he has since repeated at the last Crystal Palace Show), and to find that he only grows about two thousand bulbs in all. And what is still more remarkable, he has violated all the rules given as to growth, for the bulbs have been planted in the same ground year after year, and there is nothing which we have all insisted upon more than that the ground should be changed every year. I could not find that there was any special mode of culture, nor was the soil anyway remarkable. There must be something in the management of the spikes when they commence flowering that tends to this success, for at the time of my visit the plants were not a bit stronger than my own—I question if so strong, but I could not exhibit such spikes as he produced at the Crystal Palace. It may give some idea of the general character of his plants when I say that these two thousand bulbs are planted on a piece of ground that measures only 2200 square feet, and that out of them Mr. Galloway had cut 258 blooms of fine quality, mostly with eleven or twelve flowers out on each; that he had exhibited at thirteen different shows including the great international one at Dundee and the Crystal Palace, at each competition he had invariably gained first prize, and that even when brought into competition with such renowned growers as Mr. Kelway. It is evident, if we are ever to have autumn shows again about the metropolis, account must be taken of Mr. Galloway as a most formidable competitor.

There were many charming villa residences about Helensburgh of which I should have liked to have seen more had time permitted. My most kind host, Mr. A. Craig Robertson's beautiful house and grounds were in their way the very perfection of arrangement, and a few years will add greatly to their charm; and I have no doubt there were many others. The residence of Mr. Crum Ewing, M.P., too, seemed to present many attractions, while the shores of the Gareloch contain many favourite homes of Roses and other flowers.

And what shall I say of Loch Lomond, Loch Katrine, and the Trossacks? The hope of many years was at last fulfilled; and a most pleasant day, made doubly so by the valuable escort of my excellent host, enabled me to see the last of the European lakes that I hoped to visit. In my salet days I had visited the Italian, and in mature years the Swiss lakes. I had as a young man explored the beauties of Windermere and

the other English lakes. Killarney, Lough Neagh, and the other Irish lakes were familiar to me; and now I have seen the chiefest of the Scotch lakes. It would ill become me to attempt a description of this day's charming tour; moreover, I must stick to my last and keep to horticulture. And here let me say I was (as your correspondent would have seen had he turned to a back number of these notes) equally struck with himself with the extreme beauty of *Tropæolum speciosum*, which grows so luxuriantly all along this region of Scotland, perfectly hardy, and, as I was told, almost a weed in some places. Whether in our drier climate we shall succeed with it I know not, but I mean to try it this year (having been promised some roots of it) in various aspects. One great point is, I believe, to leave it undisturbed; and it will be almost necessary with us to give some protection to the roots in winter, removing the covering as soon as ever the roots begin to move. It is somewhat singular that so beautiful a plant should be so rare in the south of England, but a great many persons to whom I have spoken about it do not seem to know it even by name.

If it be difficult to describe such scenery as Loch Lomond and the Trossacks, it is equally so to describe the exceeding beauty of Edinburgh. I have seen many cities, but I confess I was never more impressed with the beauty of any than with that of the modern Athens. Some cities, as Naples, owe nearly all to nature; others, as Paris, nearly all to art. And if there be nothing in Edinburgh to vie with that wondrous view over the Bay of Naples, with Vesuvius towering above and Isola and Procida set as gems in the blue sea, or nothing to compare with that view, equally wonderful in its way, which one gets, or used to get, in the Place de la Concorde in Paris, there is such a combination in the queenly city of the north gathered into so small a compass that it may fairly claim a chief place amongst the cities of Europe. Its old town with all its quaint buildings (where one might fancy oneself in Paris), and historic memories, the old Castle looming over all; the splendid new town with its grand architecture and the surrounding scenery, combine to make a place of which any people might well be proud. It holds a high place too in the opinion of horticulturists, as there are here many firms well known throughout the world—Lawson's, Dickson's, Downie & Laird's, and many others. Here again time was the enemy I had to contend with, and could only pay a hurried visit to the winter garden and nursery of the latter firm. These have already been described in the columns of the Journal, and I have only to add that I never saw Pansies and all the *Viola* genus in such numbers as I saw them in this nursery. Delphiniums, Pentstemons, and Phloxes, too, were in large quantities, for it is mainly for these despised florist flowers that Messrs. Downie & Laird are so famous, and I could only regret that my time was so hurried. Moreover, the season was rather too far advanced to see Pansies in their beauty; but we all know how very successful Messrs. Downie & Laird are in their culture, and how many fine varieties they are constantly introducing.

And thus finished my rambling notes of a most pleasant tour, in which I have endeavoured to note what may be interesting to my fellow gardeners, and to show them that with all their difficulties of climate, our brethren across the border are setting us a good example of what ought to be and may be done, and so *valets*.—D., Deal.

## TOMATOES AND THE POTATO DISEASE.

Your correspondent Mr. A. Boyle (page 305) is undoubtedly right in considering the disease of Potatoes and that of Tomatoes to be quite identical with each other. The Rev. M. J. Berkeley was the first to point out this fact many years ago, and I have repeatedly referred to the matter in my recent papers upon the Potato disease. The disease of the two plants is in every way the same. Mr. Moorman's suggestion (page 327) that other members of the *Solanum* family besides the two above mentioned may also suffer from the Potato disease, is also well known to be correct. Mr. Berkeley detected the fungus of the Potato disease upon the *Petunia*; it is also not unfrequent on *Solanum Dulcamara*.

Your practical readers will see at a glance that it is not necessary for Tomatoes to be in the neighbourhood of diseased Potatoes for them to take the disease. As both Potatoes and Tomatoes are liable to the same murrain, and as other members of the *Solanum* family are also liable to it (and at least two members of the *Scrophulariaceæ* are liable), it is only reasonable to suppose that all these plants become affected



with the disease direct and without any necessary intervention of the Potato as a nurse-plant.

Monkeys in their native haunts suffer from attacks of the same fevers as men; they suffer from consumption, catarrh, and from other diseases frequent in the human family, but it does not follow that monkeys must catch these diseases from men. The explanation is that both fall under the attacks of the same noxious infectious matter, whatever that matter may be. The noxious matter is carried in or by the air, by water, or the earth.—W. G. SMITH.

In answer to your correspondent Mr. J. W. Moorman, I have two rows of Tomatoes distant from each other against south walls and full of fine fruit destroyed this season after each row had ripened about one-half of its crop. The earliest lot, in the dampest situation of the two, was attacked first and ruined in about two days after showing signs of infection. The second lot on the more open and drier situation has not gone so fast, but is quite as surely affected. There are no Potatoes within a quarter of a mile of my garden, and very few, if any, within a greater distance.

In my opinion the wet autumn and not the proximity of Potatoes has caused the disease in this *Solanum*.—SOUTH DEVON.

### JUDGING VEGETABLES.

THIS is a subject which, like our worthy friend Mr. Taylor, I for one would like to see ventilated in the pages of the Journal. Mr. Taylor, writing on the subject on page 231, says that "Good judges of vegetables are extremely few, whilst those who may be called good judges hold very different views, and there is anything but consistency in their awards." I quite agree with Mr. Taylor in this and with his paper in general. I desire to see some agreement come to as to the way vegetables should be judged.

In my opinion Potatoes, Peas, and Cauliflowers ought to stand in the order of merit named in a collection of any number of varieties; and yet I have seen Tomatoes, Vegetable Marrows, and Cucumbers, and these of no merit, placed before superior examples of the other three. At a local show I asked one of the Judges how they could possibly arrive at such a conclusion as they did on the collections—throwing out a collection containing superior examples of Potatoes, Peas, and Cauliflowers (which collection, by the way, obtained "highly commended"), placing before it a collection in which Tomatoes, Vegetable Marrows, and Cucumbers were prominent. The reply was that the Potatoes, Peas, &c., were so easy to grow and so common, and that the others were high-class vegetables. My reply was, "These are also easily grown," and questioned if any one of them was of more value and importance on a gentleman's table than Potatoes. "No," was the reply, "but they are so common." Now, will anyone say that there is much reason in this line of argument? Because Potatoes are common and of the utmost importance and value to all, are they to be thrown overboard in collections along with two other of our best kinds of vegetables, and Tomatoes, Vegetable Marrows, and Cucumbers placed before them? I cannot consider that to be sound judgment. Will anyone look around at the present day and say if there is any one vegetable that is receiving the same amount of care and attention as the Potato? Does the International Potato Show, Alexandra Palace, not furnish a reply? I would ask the Tomato champions if there has been any such show held anywhere and such prizes offered for Tomatoes, Vegetable Marrows, and Cucumbers individually? I desire to see vegetables which are good and useful adjudged their proper value, but I fear the present fashion of judging vegetables has a tendency to defeat the purposes for which shows are held.

I should like to hear more on this subject from Mr. Taylor and others who are able to discuss it.—JAS. FAIRWEATHER, *Halston*.

### ACACIA LONGIFOLIA.

ACACIAS are amongst the easiest grown and brightest of hardwooded spring and summer-flowering plants. They are well adapted for cultivation in pots, where the plants flower profusely when in a small state, and they are equally suitable for planting-out in conservatories where they form large bushes or trees, which in early summer are laden with golden flowers, rendering them both elegant and bright.

The genus comprises an immense number of species, all of

which are more or less desirable stove and greenhouse decorative plants. The greenhouse species are the most generally useful and the most commonly cultivated, as the plants in pots can be grown out of doors in the summer months, where they require a minimum amount of care to preserve them in health, and when removed under glass they expand their thousands of flowers freely. For affording cut flowers Acacias are extremely useful as, especially when planted out, the plants may be cut to almost any extent, and, in fact, are benefited by the operation. A plant of the above-named species planted in the bed of a conservatory has yielded me armfuls of golden sprays, which have been valued for their slender elegance and cheerful colour. It is by no means the most handsome of the genus, yet of its usefulness I have had many proofs. Others of the most attractive of this large family which are especially worthy of culture are *armata*, which flowers freely even when only a few inches high, and may be forced into flower in mid-winter; *floribunda*, *grandis*, *dealbata*, *spectabilis*, *verticillata*, *Hungeli*, *falcata*, and *longissima*.



Fig. 50.—*Acacia longifolia*.

Plants are easily raised from cuttings, which mode is preferable if dwarf flowering plants are required, but seedlings grow more rapidly, and also flower freely if the shoots are well matured by exposure to the summer's sun. The plants grow freely in a mixture of loam and peat, and are seldom injured by insects.—J. W. B.

### THE ROSE ELECTION.

IT was with the greatest astonishment and indignation that I read the result of the poll, and I cannot help thinking many other exhibitors will feel the same. Until, however, we learn who the electors are we cannot form any true judgment as to the result, but from the names mentioned by Mr. Hinton I should say there was a very little wheat and a tremendous percentage of chaff. Now, this is not what we want in a Rose election which treats of exhibition sorts. What Mr. Hinton should aim at should be getting the opinion of the leading nurserymen and those amateurs alone who have distinguished themselves at the London or large provincial shows—not the opinions of anyone who may choose to send in a list. A more misleading list than that published as the result of the poll it has never been my lot to read.

Here, for example, we have *Gloire de Dijon* placed 23rd, and *Marie Van Houtte* 44th, and *Souvenir d'Elise* 38th. Shades of my ancestors, what a result! What a miserable, misleading, unrighteous, abominable (please Mr. Publisher choose a jolly bad

adjective) election. Why, Gloire de Dijon rarely if ever gives a bloom which is perfect in form, while Marie Van Houtte and Souvenir d'Elise are always grand. There is not a greater impostor out than Gloire de Dijon, and yet it is the first in the list of Tea Roses.

Next we have a most charming climbing Tea, Belle Lyonnaise, bracketed with that hulking coarse abomination Paul Neron. Belle Lyonnaise, a seedling of Gloire de Dijon, and as much superior as Catherine Mermet is to a common China Rose, and yet the lovely and youthful daughter is placed 54th on the list, and the mother—*passé* and *blasé*; fat, fair, and forty—23rd.

Call this an election? Why, it is no more the voice of the Rose world than the decision of a dozen clodhoppers in a village alehouse can be called the voice of the nation. Then among the Hybrid Perpetuals we have Dupuy Jamain placed 29th, and Duc de Rohan 71st; the former being a Rose which is as thin in substance and about as many petals as a Horse Daisy, the latter being a grand double Rose of splendid constitution, and which in the autumn is invaluable.

Thank goodness there are some redeeming points. We have (not so far at least) Madame Chirard named, or that other pet of the "ninety-and-nine" gentleman Baron Chaurand. But no doubt when the lists are published they will come to the front once more.

It is also news to me, for one, that Mr. Bennett introduced that gem of the purest water Madame Marie Cointet. O, Hercules, Hercules! what would I not give to see your face when you see that the Duke of Wellington is placed 39th, and Madame Charles Wood 40th; your two pets, *mon ami*, the latter, always the one you try to put at the corner of your back row, 39th in merit. Oh! hide your diminished head in your *Heavy-tree*, and next you set up a box of blooms take the result of the poll as a guide. Well, too well, did you foresee the result when you refused to send a list.

Then we have Céline Forestier placed 85th, and Maréchal Valliant 83rd, while Souvenir de la Malmaison—that Rose which is rarely if ever seen in anything but a 72 stand—placed 43rd. Beauty of Waltham again, that charming Rose which covers the very name of Paul with glory, which has not a fault, which will die before it shows an eye. This is—Where, gentlemen, do you think? Not 12th or even 24th, but 56th; not even in the 48. Burn your plants Messrs. Paul, strike out its name from your catalogues, no more quote her as the gift, the sweetest of gifts you have conferred on a thankless world, for your beauty is considered unworthy of a stand of 48.—WYLD SAVAGE.

[In earlier elections we have talked over the possibility of a competitive examination for voters. Perhaps "WYLD SAVAGE" would kindly give us a plan by which we might eliminate the voters that know nothing about the matter and that have managed to make such a hash of the present election. Had he (for such a letter cannot emanate from one of the tender sex) signed his name we might have discovered if he were an elector, and might have taken counsel and a lesson for the future in paying attention to his list.

"WYLD SAVAGE" starts in error. Nothing whatever has been said about best "exhibition" Roses, but merely best Roses. It is true that a great many of our best Roses are also our best exhibition Roses; but not a few of us may think highly, for instance, of that "impostor" Gloire de Dijon (glorious old Rose! fancy anybody calling you an "impostor!"), even though it does not often give us an exhibition bloom; yet that it does this sometimes the previous pages of this Journal would prove, for I recollect well a remark in the report of one of the large shows, that the best bloom in the exhibition was one of Gloire de Dijon! Marie Van Houtte may be "always grand" with "WYLD SAVAGE," it is never so with me. It is lovely, beautiful, exquisite, *charmante*, I grant, but grand—a grand exhibition Rose never, at least with me. This makes me think that our friend "WYLD SAVAGE" can know nothing of our sweet Wiltshire spring breezes, but must enjoy the balmy south. I can understand Dupuy Jamain's position as compared with Duc de Rohan, at least in this part of the country. His description of the former does not agree with ours. It might have a few more petals, but even Charles Lefebvre would be improved by a few more, but Dupuy Jamain is hardy and has a colour specially its own. Duc de Rohan I allow is grand, but is here very delicate.

If the giants have not sent lists—if Hercules and others decline to assist, that is a matter which we all regret, none more so than the returning officer; but with all due deference to "WYLD SAVAGE," that cannot make the result deserve such

a sweeping censure as "a more misleading list than that published as the result of the poll it has never been my lot to read." If there are no good Roses, even judged by "WYLD SAVAGE" as "exhibition" Roses in the first fifty, I for one do not know where to look for good Roses. Are the best Roses to be found outside the fifty if the list is so misleading? I trow not. Certainly there are many, very many, good Roses still outside the fifty, but the best are inside the charmed circle; and when such good rosarians as Messrs. Cant, Cranston, Camm, Curtis, Peach, Prince, G. Paul, and Turner in their lists name something about two-thirds of the fifty, the result cannot be so very "misleading" as "WYLD SAVAGE" would make it out. I can only in charity suppose that "WYLD SAVAGE" did not read the explanatory heading of the table, or, however keenly he might have felt the insult to some of his pets, he could not have so thoroughly acted out the character of his *nom de plume* as to write sneeringly of any effort, however humble, to attach the raisers' names to the Roses. This suggestion of Mr. Peach's was, I think, a very interesting addition; to him is due the credit, and to him, Mr. Radclyffe, and all who have assisted this portion I feel deeply grateful; but in the heading to the table I acknowledged the imperfections of this portion, and how grateful I should feel to anyone for help. Surely the kind and courteous way would have been to have communicated with me on the subject of Marie Cointet for instance. I am now able to correct that error by giving the credit of raising that beautiful Rose to Guillot, fils.

No one ever supposed that the result of the election would be perfect; not even the savage writer could have had an idea so wild. It is simply approximative. That it is of some value, and looked forward to with interest, and a fair guide, public and private acknowledgments attest, and I am content to leave it to general judgment.—JOSEPH HINTON, *Warminster*.

R.S.—Lest the vials of wrath should be poured out on myself, I may state that though my list is headed Gloire de Dijon it is not a list in order of merit, and the position is accidental. I am not ashamed of still placing that old Rose in the first twenty. I confess that in that division he is low down, but of his place now I am not ashamed, neither have I any need to be, supported as I am by the following gentlemen, whose knowledge of and intimate acquaintance with Roses is greater probably than that of "WYLD SAVAGE"—viz., the Revs. Dombrain and Peach, and Messrs. Turner, Davison, Walters, Rumsey, and George Paul, in whose company I am well content to be. Were I forced to begin in order of merit—not a bad plan—I might shock "WYLD SAVAGE," and be very exceptional by placing Pierre Notting at the head, that Rose having given me grander blooms, I fancy, than any other.—J. H.]

#### HINTS ON HOME ADORNMENT.

I NOTE that you have had inquiries concerning the drying of autumn leaves. As this subject is referred to under the above heading in an April number of the *New York Tribune*, I send what I extracted from that paper, thinking that it may be acceptable to your readers at this period of the year.

"In preparing autumn leaves, I have found that when varnished or oiled they seem more liable to catch the floating particles of dust; ironing them in any quantity is laborious, and I think gives them a less natural look; while if laid in books (books not wanted for every day's reading or reference), and left in press undisturbed a few weeks, the result will be entirely satisfactory. A special word as to Ferns. These should be placed very carefully in press as soon as possible after gathering, and allowed to remain there until wanted for use. These always require delicate handling, as they are very brittle and easily spoiled. Do not omit the little things you find about home in your walks or rides; gather bunches of green Oats and Rye, the feathery Grasses, the late bronzed leaves of the Blackberry and perpetual Rose, and even the despised weeds, and to these add some green leaves of Ivy, Maple, or any convenient sort by way of contrast, and you will find yourself amply repaid for your trouble by the additional airiness and grace given to your bouquets. When the dark and stormy days of winter come get together your treasures, and with a bottle of mucilage, pasteboard cut into various shapes for backgrounds, a strong needle and thread, by the exercise of your artistic taste in arranging and making-up of your adornments, you will find a pleasant occupation, and be enabled to brighten up your rooms to the admiration and enjoyment of all your household.

"I do not know that I can give you any better ideas for the arrangement of your leaves than by describing my parlours. On entering the front room the first thing that strikes the eye is a group composed of two crescent-shaped pieces running into each other, formed of the deeply indented brown Oak leaves, mingled with various coloured leaves and Ferns, and dried Oats and Grasses fastened in here and there by a drop of mucilage, the ends terminating with long Ferns or sprays of Sumach. Between the front windows is a differently shaped cluster with plenty of large Ferns forming the outline and filled up with a diversity of leaves. In my rambles in autumn I secured some long branches of the Briar-wood Vine bearing full bunches of dark purple, almost black berries; these draped in tangled masses thickly intermingled with the berries of the Bitter-sweet Vine, and Star-oak burrs are trained along the cords over a picture in the opposite end of the room, and also over a favourite little chromo which hangs in a recess above a stand of Tradescantia, that most satisfactory plant which grows so luxuriantly in spite of stove heat and illuminating gas. Around the cords of another picture is trained a long spray of wild Clematis, with its feathery seed pods, looking as if a breath would blow them away, while in reality they make a permanent decoration.

"Over a crimson bracket supporting one of Rogers' statues is a large half wreath composed entirely of Ferns in variety, as green and fresh as when in their native haunts, and on a dark carved corner bracket stands a slender white vase of Ferns and Sumach, while from the base of the bracket floats the grey Florida Moss, so soft and filmy, interspersed with our crimson northern berries. For the mantel I have a small vase of Ferns with a delicate butterfly hovering on it, and a pair of panel pictures. 'Ah! but those are painted,' is the exclamation of visitors. No, they are not painted, they are nature itself. Not having the gift of painting, and determining not to be outdone, I again drew upon leafy treasures. I procured two thoroughly-dried boards of the desired size, and had them painted black, sandstoned, and varnished. I then selected the tiniest, brightest, and most perfect leaves and Ferns, and arranged them in groups upon my panels, attaching them carefully with mucilage, then covered them with glass the exact size of the boards; the edges were bound together with narrow strips of black paper, such as is used by bookbinders.

"My crowning attraction is our window, the admiration of all beholders. It opens into a small library with a glass roof, which admits light sufficient to make it as lovely by day as by night with a strong gaslight behind it. I procured from the stationers a piece of oiled tracing muslin the exact size of the individual panes, and filling the lower half of the window, which consists of two large panes of plate glass, the muslin giving the appearance of ground glass. In one pane I have a border of Ferns, in the centre a bunch of Ferns with a few coloured leaves and delicate sprays of Grass. In the other is a large bouquet of exquisite leaves of every shade intermixed with Ferns, Grasses, and Oats, surrounded by a half wreath of Ferns and green leaves, terminating on each end half way down the picture with a leaf of the long pointed walking Fern, and the whole is a marvel of beauty. This window is not only a picture to all but it is a memory and a token of friendship. I have a dozen varieties of Ferns, and some of these are joyous reminders of pleasant friends found among the mountains. Some are a tribute of affection gathered by a friend, while those curiously-spotted Maple leaves and other brilliant beauties came from the granite hills of New Hampshire, and the remainder from different portions of New Jersey."—E.

### MERITS OF MELONS.

CAREFUL attention is required to produce a good crop of Melons, for unless the necessary requirements of the plants are provided failure in some form is sure to be the result.

My intention, however, is not to treat on the culture of the Melon so much as to give the result of my experience respecting the merits of the varieties I have grown this season. I have grown two crops consisting of varieties which I will name. The first to ripen was Haddo House, green-flesh, a variety which was placed first at the Dundee International Show, and I was as pleased to hear of its taking the first prize for Green-fleshed as "D., Deal," was to hear of Little Heath gaining first honours for Scarlet-fleshed Melons. Haddo House is a variety which was grown where I served my apprenticeship, and with which my superior used always to carry off the first prize against all competitors. Some fruits might

have surpassed Haddo House in size, beauty, and colour, but when the judges came to taste the sweets of each they invariably awarded it the first place, and since then I have always grown it, and it was my first ripe this year amongst seven other varieties; and where three crops of Melons are required in the season it is an excellent variety, being a free setter, matures quickly, and has a good constitution.

Next in order of ripening is Little Heath, scarlet-flesh, which I consider a first-class variety of easy culture, the fruit having a good flavour and the plant a strong constitution. I sent my last three Melons of it in for dessert on October 9th. Hero of Bath (Sutton's) is an excellent scarlet-fleshed Melon. It is not of large size, but is first-class in flavour, handsomely netted, and a free setter. Malvern Hall I find a very good scarlet-fleshed Melon; it is not large, but a very fine setter, and the foliage is not so large as some of the varieties, which makes it a suitable variety for frame-culture, where it succeeds remarkably well, never showing any signs of cracking.

I have grown A. F. Barron (Gilbert's) this season, and it is certainly a very superior green-fleshed Melon, remarkably thin in the skin and deep in the flesh, and of excellent flavour; but it has one drawback where three crops are required in the season, on account of the length of time it takes to ripen, being at least three weeks later than the other varieties I have grown this season. Empress Eugénie is a good scarlet-fleshed Melon, and grows to a large size, and is suitable for either house or dung frame, being a free setter and hardy constitution. Prince of Wales is a free-fruited variety of noble appearance, and attains a large size. Bloxholm Hall is also an excellent Melon, beautifully netted, and of first-class flavour. I have also a seedling scarlet-fleshed Melon which I have raised, which is very much liked by all who have tasted it here; it has a robust constitution, and is very suitable for house-culture, being a free setter, and attains a large size; and another desirable quality in its favour is that it will keep for six weeks or more if cut a little before it is quite ripe and stored in some cool place, but before using placing it in a heated house a day or two, which improves the flavour. I have fruits now which have been cut a month, and they look as if they would keep much longer—a very desirable quality in a Melon, considering it is the only way we can prolong the season of Melons. Good Cucumbers can be grown in winter, but good-flavoured Melons cannot be grown during the absence of sun.

The great point to secure in keeping Melons is a very cool place. I remember an experiment that the gardener tried at a place where I had some good lessons in gardening. We happened to have several Melons ripe, and the family was not expected home for some weeks, and the gardener was anxious to keep them if possible until they came, so we packed them in boxes and placed them in the ice house; but unfortunately the ice melted at the sides and the boxes slipped down and most of the Melons were smashed, but what remained were as fresh as when they were cut, showing that it was possible to keep them in that way.

I often hear complaints of Melon plants cankering at the collar, the result no doubt of careless watering. In order to prevent that I always have the collar of each plant surrounded with a mixture of lime and charcoal dust, a small heap being placed well up the stem of the plant, and anyone trying this will not be troubled with canker at the collar.—J. ANDERSON, Hill Grove.

### EARLY WRITERS ON ENGLISH GARDENING.

No. 20.

REV. WILLIAM MASON.

THE REV. WILLIAM MASON, Precentor and one of the Residentiaries of York Cathedral, Prebendary of Driffild, and Rector of Aston; was author of "Elfrida," "Caractacus," "The English Garden," "Translation of Fresnoy's Art of Painting," and several other celebrated poems, the Life of Gray, &c. He was born in 1725, the son of a clergyman, vicar of Holy Trinity, Hull. He was admitted of St. John's College, Cambridge, where he proceeded B.A. 1745; and whence he removed to Pembroke Hall, of which Society he was elected a Fellow 1747, and took the degree of M.A. 1749. In 1754 he entered into holy orders, and was patronised by the then Earl of Holderness, who obtained for him the appointment of chaplain to His Majesty George III., and gave him the valuable rectory of Aston. Mr. Mason was an acknowledged scholar, and possessed high claims to a considerable degree of poetical reputation. The memorable "Heroic Epistle to Sir William Chambers" has been often attributed to this gentleman; and,

if he were the author of it, he certainly possessed no small portion of satirical humour as well as poetical strength; but the work is so different from the general character of his productions, that it is hardly to be considered as the offspring of his mind. It is certain that he never acknowledged it. In private life his character, though with something in his manners beyond the mere dignity of conscious talents and literature, was distinguished by philanthropy and fervid friendship. For the latter quality we have only to observe his conduct in relation to Gray, whose genius he estimated with a zeal of enthusiasm, to borrow an expression of old Theobald, "amounting to idolatry." Upon the whole, he is to be viewed as a man who may be ranked with the supporters of British literature and morals.



Fig. 51.—Rev. William Mason.

He died April the 5th, 1797. He had survived his wife thirty years, but remained a widower, and always spoke of her with the tenderness expressed in these lines, which he inscribed to her memory at Bristol, where she died of consumption.

"Who'er like me with trembling anguish brings  
His heart's best treasure to fair Bristol's springs;  
Who'er like me, to soothe the disease and pain,  
Shall pour those salutary springs in vain:  
Condemn'd, like me, to hear the faint reply,  
To mark the fading cheek, the sinking eye;  
From the chill brow to wipe the damps of death,  
And watch in dumb despair the short'ning breath:  
If chance directs him to this artless line,  
Let the sad mourner know his pangs were mine.  
Ordain'd to lose the partner of my breast,  
Whose virtue warm'd me, and whose beauty blest;  
Fram'd every tie that binds the soul to prove  
Her duty friendship, and her friendship love.  
But yet, rememb'ring thus the parting sigh  
Appoints the just to slumber, not to die;  
The starting tear I check'd, I kiss'd the rod,  
And not to earth resign'd her, but to God."

He died at Aston, and in the church is a marble tablet with a profile bust, erected to his memory by his successor, the Rev. C. Alderson; and on the ceiling of a summer-house in the rectory garden is an embossed medallion containing the profiles of himself and his friend and brother poet Gray.

The garden and the ground around it were laid out and continually improved by Mr. Mason. Gardening was the favoured employment of his leisure, and even in his private letters there are almost always references to it. Some are all in verse. The following is a specimen. Writing of the owner of a superior garden he said—

"Smiling he spake, nor did the Fates withstand;  
In rural arts the peaceful moments find;  
Say, lovely lawn, that felt his forming hand,  
How soon thy surface shone with verdure new;  
How soon obedient Flora brought her store,  
And o'er thy breast a shower of fragrance hung.  
Verdure came; his earliest blooms he bore,  
And thy rich sides with waving purple hung."

"The English Garden," the longest of his miscellaneous

poems, entitles him to a place in these columns. It is practical, though chiefly directed to aid ornamental gardening.

"To trace the path, to form the fence,  
To mark the destin'd limits of the lawn."

He warns against planting too many Conifers; rather "select the shrubs patient of the knife," such as the Laurel, &c. Recommends a well-watered locality; and that in all plans the aim should be simplicity, and "the curve that Nature loves."

## VIOLETS AND PANSIES.

I WAS very much pleased with Mr. Beachey's letter on Violet odorata pendula of New York, and commonly called New York. It is certainly a most valuable variety, and is, without doubt, the best double ever yet sent out. Mr. Beachey enumerates many of its good qualities, but it yet possesses another in not being at all subject to the attacks of red spider. It is certainly the hardiest, the freest blooming, and one of the most fragrant of double Violets, and of its beauty there can scarcely be two opinions.

There are also several other double Violets which I think deserve to be better known than they are. One named Blandiana is a very handsome one, its colour being deep purple, distinctly striped with bright rose. It is very fragrant, and a good winter bloomer under glass. Reine Louise and Marie Louise are both, I think, better whites than The Queen. The foliage of Reine Louise is much handsomer than is that of The Queen, whilst Marie Louise generally has beautiful golden variegated foliage in the spring. The other doubles are, I think, pretty well known.

In singles Victoria Regina is the largest and finest yet introduced, although I think a seedling of my own, Beauty of Louth, is a worthy companion to and very distinct from it. It is a light blue with a white eye, very bright in colour. It ought, however, to make the best of it, to be grown in a cold frame, as, indeed, all Violets ought, at any rate as far north as this. Another fine single but little known is Wilsoni—I believe an American introduction, very fragrant and very handsome, but rather delicate for outdoor growth. Its colour is pale blue with white eye, but it is not so good a shaped flower as Beauty of Louth, having more pointed petals. It is a capital winter bloomer in a frame.

I now mention how surprised I have been never to have seen any mention made of a fancy Pansy called Gaiety, raised by Messrs. Cocker. It is the most brilliant in colour of any I ever saw, being something like James White, but a great improvement. Its mixture of brown, crimson purple, chestnut brown, and yellow is strikingly handsome; it is also very good in shape, size, and substance, and a very good grower and bloomer. Duchess of Edinburgh (Cocker) is also first-class. —GEORGE W. BOOTHBY, *Louth*.

## A PICTURESQUE GARDEN.

SUSSEX is a picturesque county, boldly undulated, rich in beautiful scenery, abounding with curious nooks and corners, rocky ravines, steep banks clothed with Holly, Fern, and Heather, and many other features—wild, quaint, and uncommon—affording such facilities for the formation of picturesque gardens as are very rarely to be met with. The numerous new places that are springing up in this county afford ample proof how highly these great natural advantages have at length come to be estimated. It is not, however, to new gardens or the doings therein that I now wish to call attention, but to one that is comparatively old, so old in fact as to afford most valuable hints to those who in the designs of their new gardens very wisely follow no beaten track, no set form, but rather adapt their plans to local peculiarities of climate and the physical formation of the land.

A wide dell, its upper end an irregular semicircle, shut in by steep banks, clustering timber trees, and high masses of rock, its lower end opening out upon the grassy undulations of a park and the bright waters of a lake of considerable size. The sides of the dell present no formal lines, but a pleasing irregularity of steep declivities and gentle slopes, hid at some parts by dense growths of evergreens and at others perfectly open, with fine old trees of Chestnut and Oak high up on the slopes, forming a sort of enclosing boundary, the huge old pendant branches of some sweeping down to the turf and forming a charming background to the shrubs and plants grouped below them. A narrow bank with a roadway at the top, fringed with a thick margin of St. John's-wort, intersects the dell, dividing



it into two parts, which are connected by an archway piercing the centre of the bank, its sides being clothed with Ivy, Ferns, and Mosses. The sides of the bank, too, bear large masses of rock interspersed with a rich collection of choice Ferns; not just a single specimen or two of each kind, but a profusion of rare gems absolutely rampant with health and vigour, and of which haply you and I, my readers, can boast of but a few small plants, and those so precious as to be cherished in pots.

Advantage has been taken of this division of the dell into two portions to impart a different character to each. This has been done so skilfully and with such admirable taste as to preserve the unity of the whole, no incongruous feature presenting itself at any point. On one hand we have masses of rock boldly grouped in irregular but most picturesque order, and so disposed as to form ledges, nooks, or open "mountain slopes" to suit the requirements of Alpine plants. Little rills and pools of water for aquatics, intermingled with Rhododendrons and other shrubs of the evergreen class, the whole relieved by a few well-chosen, well-placed Conifers, all in admirable keeping with the natural surroundings of projecting rocky strata and high turf-clad slopes which sweep from the rocks under lofty Chestnut trees to the lower part of the dell, where on the other hand we find Rhododendrons in much greater abundance disposed in continuous belts with detached groups, alternating with others of Azaleas, Kalmias, and Ferns upon turf, with a walk winding along the bottom of the dell onwards to the lake. An arbour placed high up upon one of the slopes under the trees commands a view of the chief features of this lower part, thus affording the combined advantages of quiet seclusion, the cool shade of lofty trees, and bright glimpses of some of the most beautiful objects in nature.

Such are the general features of the rock garden of J. H. Selater, Esq., Newick Park, near Lewes. It is a veritable "charming little valley," replete with treasures rich and rare, as we find upon the closer inspection that involuntarily follows the first delighted glance. An interesting garden? Well, I had often heard the term, often used it myself, but never previous to my visit to Newick had I realised its full meaning. It was my good fortune to go through the garden with Mr. Selater, and he very kindly pointed out many of its most attractive features. Almost every plant has a history, and this imparts to them an intrinsic worth and an interest that can never attach itself to ordinary collections. Many an alpine gem has been gathered from its native habitat and brought here to be cherished and cared for by Mr. Selater's own hands. In a rocky nook carefully made to resemble its wild haunt was a fine tuft of the Mountain Parsley Fern (*Allosorus crispus*). On a damp sheltered rocky ledge overhanging a pool of water *Trichomanes radicans* was being established, a covering bell-glass being used as much to ward off the attacks of snails as to retain moisture.

The largest mass of *Hymenophyllum tunbridgense* that I have ever seen was flourishing with extraordinary vigour upon the sloping face of a sandstone rock, part of a strata protruding from the upper end of the dell, a piece of water which supplies a cascade being above and behind it; so that while the face of the rock is fully exposed to the air, yet it is kept constantly moist by the water behind, which undoubtedly accounts for the rampant growth of this rare Filmy Fern. But it is not alone; other plants and Ferns are so abundant on all sides, and so fine withal, that one is puzzled which to select for notice. The Royal Osmunda, the curious Hay-scented Buckler Fern (*Lastrea fenestricii*), Oak and Beech Ferns, Shield Ferns, and Hart's-tongue, the last two species in numerous varieties, are all here arranged in no formal order, but meeting one at every turn, and this I think gives to the place its greatest charm. The guise in which the plants present themselves to us is so natural that we can do nothing but admire and strive to learn how it is done—not an easy lesson, for as we look a conviction steals upon us that skill and taste of no mean order must have been brought to bear upon a work that has been wrought to so successful an issue.

At more than one place here there are quantities of the Falkland Islands Fern, *Lomaria magellanica*, introduced into this country upwards of thirty years ago, and still uncommon, at least as a hardy Fern, and yet it is one of the most ornamental and striking sorts that we have. Its noble deep green fronds, some 2 feet in length and with rich pink stems, have an aspect of dignity and grace that is in fine keeping with the massive grandeur of the huge sandstone rocks, to the base of which they form a most fitting fringe.

The seedling *Osmundas* clinging to the face of the rock upon

which the spores are blown afforded another curious and interesting sight. Much of the rock is also draped with trailing growth of the pretty little *Linaria cymbalaria*, and the equally pretty Cornish Figwort (*Sibthorpia europæa*), which at some places has trailed downwards to the foot of the rocks and spread out upon the ground, forming the most charming cushions of soft green foliage imaginable. A host of noble specimens claim the notice which I may not give them without extending this paper to an undue length. There was *Adiantum pedatum* established in its present situation for several years, and finer than I had before seen it; *Woodwardia radicans* in a large bold clump, perfectly healthy, but not so large as we sometimes see it under pot culture; *Struthiopteris germanica* in immense quantities, one circular mound being planted with matched plants of it arranged in circles—the only bit of formal planting in the garden, but for which the handsome form and precise growth of this choice Fern was admirably adapted. *Osmunda regalis* was also most abundant, the effect of one bold clump of it containing some dozens of huge plants in front of a semicircle of Rhododendrons, with a background of tall trees, was especially fine. But what will the lovers of Ferns say when I tell them of a bed of *Onoclea sensibilis* some 15 yards wide by as much long? This bed has probably no equal in this country, and is quite sufficient in itself to form the boast of any place, but here it simply ranks as one of many marvels.—EDWARD LUCKHURST.

### ASPARAGUS.

It seems curious that this highly esteemed vegetable, ranking in its season as highly as the Pea or the Cauliflower, should in so many gardens be merely an apology for what it might be, and even as it is produced by French and English market gardeners. Notwithstanding the amount of care devoted to its cultivation, it is doubtful if some highly important points are not generally neglected. It is with Asparagus as with many another cultivated plant, someone has been successful by following a particular mode of culture, and, as sheep follow their leader, everybody must follow suit.

A good depth of soil is of much importance—say at least 3 feet deep, but good Asparagus is obtainable off land less than half that depth. In the one case the crop will fail in yielding good returns long before the other is exhausted, and frequent making of fresh plantations will be necessary to keep up continued supplies. In most gardens it would be a good plan to plant a little yearly, or once in two years, in order to have a continuous supply of strong growths to cut; for in the great majority of gardens plantations three to six or eight years of age will yield the best crops; and as things go at present, where most of the ground is cropped and double cropped without intermission, relying merely on young plantations of Asparagus will pay better than allowing them to exhaust the soil too much. Being a deep rooter, it is necessary to stir the ground as deeply as possible; but if the subsoil is of a poor nature on no account should it be brought to the surface. In trenching the ground, merely dig the bottom of the trench over, working plenty of cow manure in, or, what would be of more lasting benefit, adding any thoroughly decayed rubbish or soil that can be had.

Where ground can be spared and time be had to prepare the soil, seedlings sown in April in a rich bed, and transplanted the same summer, may be expected to do best; but in the majority of gardens the better plan will be to allow the plants to remain twelve months in the seed bed, or from April to the April following, when there will have been time to prepare the ground thoroughly during the previous autumn or winter, whilst there will be but little lost in the cropping. When the plants have grown an inch or two above ground, and on a dull day, planting should be performed; one man may be lifting the plants carefully with a fork, at the same time shaking the soil free from the roots; other two men will be engaged taking out shallow pits for the plants, leaving them cone-shaped in the centre, and again filling up the holes after the plants have been placed in position by another man set apart for that purpose. They may be planted 4 feet from row to row, and half that distance between each plant, which, however, may be increased to the same distance when the plants have attained to full growth. The plants must be well firmed by treading, and the ground pointed as the work proceeds; a mulching of rich manure will be of great advantage. They will require staking as soon as growth commences, using stout sticks, or a string or preferably a galvanised wire, may be stretched the length of

the rows and the shoots tied thereto as growth progresses. Staking the plants is of the first importance in many localities where summer and autumn gales prevail. The mischief the wind does if the plants are not secured cannot be over-estimated, as the stronger the growth the more are the plants blown about, quantities of shoots being entirely twisted out of their sockets and blown about the garden. Whenever such gales are prevalent, staking is simply necessary, or some other means of securing the plants, in order to keep them in vigorous bearing. If all goes well robust shoots will be produced towards the autumn, and all should be preserved in a growing state as long as possible. Successional crops of Cauliflower may be taken off from between the rows; French Beans or other crops may be also grown.

A surface dressing 2 or 3 inches thick of manure from the cow houses or mixed with stable dung, may be laid over the ground after the stems have been cleared away; enough loam or refuse soil to cover all should be placed over the dung, especially when the latter would be unsightly if uncovered. It is advisable not to cover the crowns of the plants with the dung. We prefer allowing the dung to remain on the ground entirely, as it acts as a mulch during summer, even if no better result is obtainable from it. The second year great care should be taken to secure all the shoots from being twisted off by the wind. If all goes well with this season's growth a few heads may be gathered the following spring, but if care is not taken to secure good growths it will be better to give the plants another year. In any case most of the gatherings ought to be taken from the extra plants, which will require removing the third or fourth year after planting, to allow space for the permanent plants to develop; or another use may be made of these supernumeraries where forcing is carried on, and that is to use them up for early supplies. Spinach, Lettuce, or Turnips may be grown between the rows the second season, but afterwards the whole ground should be devoted to the Asparagus only. No digging should be allowed amongst the plants after they are established; and should signs of exhaustion appear, some of the surface soil should be removed, and a mixture of fresh loam and dung placed over the entire surface.—R. P. B. (in *The Gardener*.)

#### PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

*SERAPIAS PAPILIONACEO-LINGUA*. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“This very rare remarkable terrestrial Orchid is presumed to be a natural hybrid between *Serapias lingua*, *Linn.*, and *Orchis papilionacea*, *Linn.*, having been found in considerable abundance growing in company with those plants, and with *Serapias longipetala*, *Poll* (a species closely allied to *S. lingua*). This hybrid was first found near Genoa, and subsequently at Berre near Nice, and other places on the Riviera, as well as near Trieste and Lucca, and there are herbarian specimens at Kew from the department of Gers in France.”—(*Bot. Mag.*, t. 6255.)

*OXALIS ENNEAPHYLLA*. *Nat. ord.*, Geraniaceæ. *Linn.*, Decandria Pentagynia.—“In the ‘Flora Antarctica’ Dr. Hooker described this plant as the pride of the Falkland Islands, where it grows in such profusion at Berkeley Sound, on banks overhanging the sea, as to cover them with a mantle of snowy white in the spring month of November; adding that it is an excellent antiscorbutic and agreeable pot herb, though too acid to be used except in tarts and puddings. When the above was written this plant was supposed to be confined to the Falkland Islands; it was, however, found in the Straits of Magellan by D’Urville’s expedition, and by Lechler at Cape Negro, also in the Straits.”—(*Ibid.*, t. 6256.)

*LAURENTIA CARNOsula*. *Nat. ord.*, Campanulaceæ. *Linn.*, Pentandria Monogynia.—“A very elegant little annual, native of muddy places in Sierra and Indian valleys in California, and thence, north-eastward, to Wyoming territory (A. Grey). It is remarkable as being the only American example of the genus *Laurentia*, of which ten species are known, the rest being natives of South Africa and the Mediterranean region. The cultivated specimens differ widely from the native in habit and appearance, the native ones being shorter, with very succulent and indeed thickened stems, and having flowers not one-quarter the size of the cultivated ones. *L. carnosula* was raised from Californian seed by Mr. Thompson of Ipswich, who flowered the specimen here figured in July, 1875.”—(*Ibid.*, t. 6257.)

*MASDEVALLIA POLYSTICTA*. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“Imported from Peru by Mr. Ortgies of the Botanic Gardens of Zurich; native of the temperate

region of the Andes in Northern Peru, and discovered by Mr. Roezl.”—(*Ibid.*, t. 6258.)

*CALLIPHURIA HARTWEGIANA*. *Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia.—“It was discovered by Hartweg about 1842 amongst the mountains of the province of Bogota in New Grenada, and has lately been imported by Mr. William Bull, from one of whose specimens the present figure was made in July, 1874.”—(*Ibid.*, t. 6259.)

*ICACINA MANNII*. *Nat. ord.*, Olacaceæ.—“A native of the Gulf of Guinea, where it was discovered at Old Calabar by Mr. Gustav Mann (now inspector of indiarubber forests in Assam), when collecting for the Royal Gardens in 1863; he, however, sent no living specimens. In 1865 its large tuberous roots were sent by the Rev. Mr. Thompson to Mr. Clark of the Glasgow Botanical Garden, which flowered in October, 1870.”—(*Ibid.*, t. 6260.)

*APPLE*.—*Redleaf Russet*.—“This Apple was raised from seed by Mr. Cox of Redleaf, who thus speaks of it:—‘The Redleaf Russet is ostensibly, according to my own manipulation, a cross between the Golden Knob and the Golden Harvey, but there is a possibility that I was anticipated by the bees, as a tree of the Old Nonpareil grew near by; and I am the more confirmed in this because the fruit possesses three of the characteristics of the Old Nonpareil—namely, the shape, the long stalk, and the tenderness of flesh. The colour of the skin is that of its parent, the Golden Knob. The yellow colour of the flesh would seem to be derived from the Golden Harvey, while the growth of the tree and manner of bearing resemble both Old Nonpareil and Golden Harvey more than the Golden Knob. When in perfection the flavour is most delicious and peculiar to itself, and it may be considered in perfection from February till the end of May, after which, although keeping sound till the end of July, the flavour gradually deteriorates.’”—(*Florist and Pomologist*, 3 s., ix., 229.)

#### NOTES AND GLEANINGS.

MR. CHARLES TURNER, Slough, has forwarded to us blooms of a new *DAHLIA* named *Artist*, which opened too late for the autumn shows. It is a very gay and striking flower, and likely to be effective in the exhibition stand, and especially so for garden decoration. The flower is full, firm, and symmetrical; the colour is yellow, irregularly flaked with crimson lake deepening to the centre. The flowers in size and shape are similar to those of *Leah*, and, like that useful *Dahlia*, *Artist* has strong stems supporting the blooms well above the foliage.

A CORRESPONDENT sends us the following note:—“The solicitude evinced by Messrs. Sutton & Sons of Reading for the welfare of their numerous *employés* is proverbial. Some time ago an establishment named the ‘British Workman’ was opened by the firm, and recently they have erected a TEMPERANCE CAFÉ AND RESTAURANT contiguous to their premises for the use of their dependants and the public generally, and which it is hoped will possess attractions which will substantially promote habits of temperance, and provide the means for social intercourse, which too often can only be found in inns and taverns. This valuable contribution to the cause of temperance is deserving of patronage and success.”

THE objects of the PELARGONIUM SOCIETY are:—1, To promote the improvement of the various sections of the *Pelargonium*; 2, To facilitate the introduction of new species and varieties; 3, To give system and method generally to the practice of hybridisation. These objects it proposes to accomplish by offering prizes, as liberal as the support accorded to it may permit, to be competed for by British and foreign exhibitors; by determining the merits and distinctive qualities of new varieties, and their suitability for conservatory decoration, or bedding-out purposes, or both; by cultivating all obtainable new varieties, British and foreign, side by side, and in conjunction with approved old kinds—during the first year under glass, and in the second year out of doors, facilities for accomplishing which, it is hoped, may be afforded by the Royal Horticultural Society at Chiswick; by the formation of a register in which approved sorts shall be entered and from which inferior varieties shall be eliminated; and by facilitating intercourse and interchange of opinion between raisers and cultivators. The qualification of membership is an annual subscription of one guinea paid in advance.

WE have recently seen how valuable as a bedding plant is the new *AGERATUM* COUNTESS OF STAIR, which has been favourably mentioned by the Rev. Mr. Peach. This *Ageratum*

continues to produce its dense trusses most freely, and plants of it potted from the garden cannot fail to be effective in the greenhouse and conservatory for a period of several weeks to come. No plants lift more safely than *Ageratum*s, for if potted even when in full flower the plants seldom lose a leaf if properly attended to. In a week or ten days after having been potted liquid manure should be given freely, and the plants will then continue flowering all through the winter.

SOME exceedingly effective *BOUQUETS* are always to be found in the Central Avenue of Covent Garden Market. We noticed recently one which, though formal, was very striking. A white *Camellia* formed the centre, and from this to the outer edge of the bouquet were six rows at equal distances apart of single pips of *Stephanotis* flowers—six pips in each row—the angles being filled with *Violets*, and the whole edged with *Maidenhair Fern*. Other bouquets were made principally of *Camellias*, *Roses*, and *Eucharises*, with sprays of white and scarlet *Bouvardias* slightly elevated above the more massive flowers. This arrangement was very chaste and pleasing.

As a proof of the *MILDNESS* OF THE SEASON *Alternantheras* in the London parks have continued to put forth fresh leaves freely up to the present time, and these, especially in the case of *A. amena*, are of the most brilliant colour, proving that not only heat but moisture is necessary for these highly coloured "carpet plants" to appear in their richest garb. Tender though *Alternantheras* are, their beauty is retained longer than that of the *Golden Feather*, the foliage of which decays with extreme wet when the plants are planted closely together.

*Messrs. Sutton & Sons* have issued their list of prizes to be awarded at their Root Show in November.

A *SOCIETY* of practical gardeners and others has been formed under the title of "The Bromley Common and District Horticultural Society." Its object is the improvement of gardening among all classes in the neighbourhood. Mr. J. Hobbs, The Fernery, Bromley Common, may be applied to for particulars.

In consequence of the extreme drought of summer being succeeded by a warm and moist autumn *VIOLETS* are in many places flowering almost as freely as in spring. One of the finest and sweetest is the variety recently raised by Mr. G. Lee of Clevedon and named *Prince Consort*. The flower of this variety is large, very round, pale blue, on a long stalk which raises it above the foliage, and is very fragrant. Flowers of *Prince Consort* were gathered for the market on the 8th of September.

*M. LEMOINE* has raised a *DOUBLE-FLOWERED LILAC*, which he has named *Syringa hyacinthiflora flore-pleno*. He applied pollen of one variety upon a hundred flowers of another, obtaining in the first instance but seven seeds. *S. oblata* and *azurea plena* were the varieties used. Other efforts were somewhat more successful. He has raised forty plants, of which number but three have bloomed, one of which is the above. The flowers resemble those of very small *Hyacinths*, hence the name.

A WRITER in the "Jahrbuch des Bremen'schen Gartenbau-Verin," on the change in the colours of flowers, says that the changes in the colours of the flowers of *GLADIOLUS VERSICOLOR* are among the most remarkable and wonderful of this class of phenomena. Indeed this plant may be dubbed a vegetable chameleon, so varied are the changes the colours of its flowers undergo. In the morning they are brown, and during the day they assume various hues, until in the evening they become blue, and remain so during the night. The following morning they are again brown, and during the day they pass through the same changes as on the preceding day.

*MR. PRINCE*, late gardener at Ringwood Hall, has succeeded to the management of the gardens at Bladon House, the seat of Fred. Gretton, Esq., Burton-on-Trent.

THE vegetable supply at COVENT GARDEN shows no signs of scarcity as the result of the hot and dry summer, but many vegetables do afford unmistakable evidence of rapid—in some instances too rapid—autumn growth. Cabbages are of immense size, and many of them are split. Cauliflowers are coarse and "blown." The majority of the Turnips are cracked, and Potatoes are the reverse of smooth and tempting in appearance; with but few exceptions the tubers are unshapely, and most of them show signs of second growth, and in some samples the second-growth tubers are larger than those of the crop proper. Endive and Lettuces are plentiful

and good; Celery generally coarse; Leeks small; Kidney Beans, Tomatoes, and Mushrooms in fair supply, and ridge Cucumbers and Vegetable Marrows are offered in large numbers.

ALLUDING to the SHOW OF FRUIT at the CENTENNIAL EXHIBITION at Philadelphia, the *New York Tribune* states that space is provided for 14,000 dishes, and most of it is already occupied. The Fruit-Growers Association of Ontario send 1500 dishes, and Apples from Nebraska are numerous and good. But "the most remarkable display in the building is that of California fruit, brought east in refrigerator cars. It is in fine condition. In size the fruit is unequalled, and its quality is very good. The Peaches are very large and temptingly luscious. Clusters of Grapes are shown, which in this part of the country seem fairly enormous. The beauty of some of them is beyond praise. The Apples, Pears, and Plums are almost equally remarkable. Nectarines, Figs, and Almonds, both green and ripe, are also shown. This fruit was brought here by an agent acting for a large number of fruit-growers. Besides that exhibited, a stock is on hand for sale in the building."

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

THE Asparagus stalks had changed to the yellowish tint indicative of ripeness, and we have had them removed. We like to cut them off before the seeds drop, as they vegetate next season and become troublesome weeds. Signs of the coming winter are to be seen in the falling leaves, which litter about the garden walks and give the place an untidy appearance; we contrive to sweep and clean up at least once a-week. Weeds have grown a good deal on the walks, and there is nothing for it but to pick them out by the hand, and this must be done at once, as the weather will soon be too cold for this sort of work. When walks have been laid down a number of years, and the gravel is loose, weeds grow abundantly; and if it is difficult to keep them under, a good plan is to slightly turn over the surface to the depth of 2 or 3 inches and give the walk a fresh dressing of fine gravel. When finishing off the walk ought to be left highest in the centre, but not so much as to be felt by the feet; a very slight rise from the side to the centre is sufficient to drain-off the water.

If Box-edgings require altering or relaying, the work ought to be done at once, so that the edgings become established before the winter. The gravel must be cleared well away from the side that is to be relaid, and the ground be forked over and well broken up; it should then be trodden down firmly and made perfectly level. When the line is tightly stretched cut the soil from the side next the walk with a clean spade, and when the Box is laid in it must not be more than about 2 inches above the surface of the soil. Box is by far the neatest and best edging where it succeeds. We have tried ornamental tiles, and they also form a neat and durable edging; but where they are only bedded in the soft ground or gravel they drop out of their position and require to be put straight about once a-year, and this is the best time to see to that. There are different sorts of gravel adapted for different circumstances, and there are different opinions as to which is the best sort of gravel for kitchen-garden paths. Preference is usually given to that which binds well; but in every case the foundation of the walks should be laid with rough stones or broken bricks, and if the subsoil is such that water does not drain freely through it, it may be necessary to lay drain-pipes along the paths. If a loose surface is preferred, the gravel must first be sifted to separate the large stones, then it must be passed through a finer sieve—one that will retain the smaller stones, passing the sand through only. The large stones must be put in at the bottom and the smaller on the top. There must be 2 or 3 inches of small stones on the top, else the larger stones will work up and be in the way. After it has been levelled smoothly with a rake a heavy roller must be passed over the path about six times to make it firm and perfectly level.

Slugs have been very troublesome on newly-planted Lettuce. We have dusted the ground over with quicklime; but the most effectual way to eradicate them is by hand-picking with the aid of a lantern at night.

### VINERIES.

The damp muggy weather has been very injurious to ripe Grapes, and every precaution is necessary to prevent decay spreading amongst the berries. Immediately a decaying berry comes into contact with a sound one, the mould causes the sound one to decay. In such weather it is necessary to look over the bunches at least twice a-week, and to cut those decaying out. The thick-skinned variety, *Lady Downe's*, does not show any signs of decay, while many decaying berries have been cut out of the more delicate and thin-skinned *Muscat of Alexandria*. As a rule the white Grapes require the most attention,

but when it is intended that the fruit is to hang late in the season the berries must be well thinned-out. This is one reason why Lady Downe's keeps well, the bunches are usually small and never heavily shouldered. Gros Guillaume keeps well until after Christmas, but the bunches are usually large, heavily shouldered, and the berries are thinner-skinned than Lady Downe's. The larger bunches require to be examined to detect decaying berries in the centre. Mrs. Pince's Black Muscat does not keep nearly so well as Lady Downe's, but we have had the former in good condition until the end of February. It is needless to say much in praise of the well-known Black Alicante; it is next to Lady Downe's as regards keeping qualities, and superior to that variety in many important respects. One thing ought not to be lost sight of, and that is the importance of having the Grapes well ripened. The greatest care as regards ventilation and dryness of the atmosphere will not prevent badly ripened fruit from spoiling. The two essentials, independent of atmospheric influences and cleanliness, are well-thinned bunches and thoroughly ripened fruit.

Vines in pots now about to be started should be placed in a house without any artificial heat, as the weather is so mild. On six nights during the last week our minimum thermometer registered over 50°. Last Friday it did not fall below 58°. While this continues the house should be closed early in the afternoon, and a bottom heat of 80° will cause the buds to start strongly and regularly all over the canes. It is also necessary to syringe the canes with tepid water until the buds have started, when syringing may be discontinued. See that the roots do not want for water. A pot Vine that is in proper condition for forcing has the pot packed quite full of roots; and much of its food supply depends on the quantity of water the Vines receive. If any of the pots become overdry the result is most unfavourable to the Vines. For early forcing by far the best variety is the Black Hamburg. If a few white Grapes are required, Foster's White Seedling is good. Buckland Sweetwater is an excellent white sort and generally does well in pots, but early in the season the fruit is watery and deficient in flavour, unless the Vines can be placed in a position where they receive both the noonday and afternoon sun, in which case it is preferable to Foster's Seedling.

Fig trees intended for early forcing should not be left out of doors after this. Some persons recommend top-dressing them, but this is a plan I do not approve of for Figs; in fact, it is not a safe one for any tree or plant, except it is in full growth and the roots are ready to run into the surface soil at once. When the roots of plants are not very active the plant does not require much water, and if a rich dressing is put over the roots in winter it becomes sour before they penetrate into it; and further, the plant or tree requires no stimulant when it is leafless. Our own plan with Fig trees, and it is most successful, is this:—As soon as the leaves become yellow, or have fallen off, the trees are turned out of the pots and their roots examined. When these are in a healthy condition and well matted round the sides and under the ball of earth they are disentangled, and some of the soil is removed, repotting in a size or two larger pot. The Fig will stand a large shift, as it is a vigorous-growing tree and rapidly fills the pots with roots. We have put in eyes in February, and by shifting the young trees on as they required it, and growing them in a high temperature, we have had good-sized fruiting trees established in 11-inch pots by the end of the season. The trees should be potted in the same way and with similar compost as recommended a few weeks ago for Peach trees. When forcing is commenced the same system of management as that for pot Vines is the most suitable for Figs, and the trees luxuriate when in full leaf in a high moist atmosphere. If necessary, surface dressings may then be applied, and the healthy white roots will be through and through it in a few days.

#### PLANT STOVE AND ORCHID HOUSES.

Now is the time to have a thorough cleansing in these structures; the glass and woodwork we are having washed outside and inside. In the neighbourhood of large towns, especially where there is much smoke from factories, the glass becomes obscured from sooty particles in the atmosphere, and in winter the plants require all the light it is possible to obtain for them. Plants intended to produce flowers during winter should be placed in a light airy position. Winter-flowering plants are not numerous, and the most that is possible ought to be made of them. Some of the gayer-coloured handsome-foliated plants work in well with Ferns. Small plants of such, as *Sonerila margaritacea*, *Pittonia argyroneura*, *Bertolonias*, &c., have a fine effect as a margin to the stages alternated with the finer species of *Adiantum*. Some of the above are not only of easy growth but are also of rapid increase.

Cuttings of hardwooded plants put-in in August have now formed roots and made a little growth. They have been potted singly in small pots. All such plants require to be potted as soon as they are rooted, and the operation must be carefully performed. The whole ball should be turned out of the pot and the plants be picked gently from amongst the soil, saving all the slender thread-like roots. The compost for these small

plants ought to be much finer than that for specimens, and the pots must also be well drained.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Thomas Rivers, Sawbridgeworth, Herts.—*Descriptive Catalogues of Fruit Trees and Roses.*

Jonathan Booth, Pole Lane, Failsforth, Manchester.—*List of Carnations, Picotees, Pansies, and Auriculas.*

Thomas S. Ware, Hale Farm Nurseries, Tottenham, London.—*Catalogue of Roses, Florists' Flowers, and Border Plants.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LIVERPOOL (Chrysanthemums). November 2nd. Mr. R. Wilson Ker, 6, Basnett Street, Church Street, Hon. Sec.

JERSEY (St. Helier's) (Chrysanthemums). November 8th. Col. H. Howell, Hon. Sec.

SOUTH BERMONDSEY (Chrysanthemums). November 13th and 14th. Mr. D. Jewiss, Rosedale Arms, Rosebury Street, Bermondsey, Sec.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Deunark Road, Northampton, Sec.

BRISTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Goldfinch, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

HORTICULTURAL DIRECTORY (*A Reader*).—It will be published early in January, price 2s. 3d., post free from this office. It is not too late to send corrections.

ROYAL HORTICULTURAL SOCIETY'S FRUIT COMMITTEE (*D. P. B.*).—It will meet in December.

ROOTS DESCENDING INTO GRAVEL (*J. P. J.*).—Cut off the tap roots at planting time, and place some slates or tiles at the bottom of the hole. Manure the surface and keep it well mulched to attract the roots towards the surface.

FUCHSIAS (*Mrs. Holmes*).—They are garden varieties which we cannot name.

TOUGHENED GLASS.—"*A Practical*" asks if anyone has tried Messrs. Dick Radcliffe & Co.'s toughened glass and found that it is equal to the praise bestowed upon it? He justly says it is valuable if it is tough.

GRAPES NOT SETTING (*J. B., Whitehaven*).—The Grape sent is the Royal Vineyard, which seldom sets its berries well, and is unsuited to your cool Black Hamburg house. You have adopted the best plan you could to improve the Vines, and if your inside border is rightly made the alteration will be effectual. The Vines were not likely to flourish in a border "only 3 feet wide, cold and wet."

FORCING SEAKALE (*H. W. S. C.*).—The seedling plants we presume are strong, having good crowns. If grown from seed this year the strongest only are available; the weakest plants if planted out will make good crowns for another year. The plants may be taken up as soon as the leaves have fallen or they part readily from the crowns, and the roots should be planted in rich soil up to the base of the crowns, making the soil firm about the rows. We put-in ours in rows about 8 or 9 inches apart, and 6 inches between the plants in the rows. The soil being moist at planting no watering is given until growth commences, and then we water between the rows twice a week. All that is needed to ensure blanching is darkness. The heads will be fit to cut in fifteen or twenty-one days, and to keep-up a succession you will need to put in fresh roots at fortnightly intervals.

MARSHAL NIEL ROSE VIGOROUS (*Idem*).—Encourage the suckers from the root, in fact all the growth you have space for, awaiting with confidence the blooms that will astonish those who say you will not have any.

CUTTING CONIFERS (*A. F.*).—Beyond regulating irregular growths, cutting-back and trimming evergreens is not advisable. It is best performed in spring when fresh growth is being made. *Pinus excelsa* will bear cutting-back, and will probably give a shoot advantageously placed for replacing the lost leader, keeping any disposed to dispute its claims from asserting their right by timely removal. The pruning should be done a little before growth takes place.

REMEDY FOR AMERICAN BLIGHT (*Idem*).—There is no more safe and efficacious remedy than applications with a brush to the parts affected of paraffin oil, not allowing it to run down the stems or come into contact with the foliage. This and similar pests can only be overcome by frequent applications of the insecticide whenever the insect is present.

OLD AND YOUNG PLANTS OF VARIEGATED GERANIUMS (*F. J.*).—The old plants taken up from the beds and potted, having the irregular growths cut away and all but the very young leaves removed, will make larger plants than those from cuttings, but the latter give finer foliage; and as foliage is the



object in variegated plants, we consider young plants preferable to old plants, though we find the latter very useful for filling the centres of the beds with the young plants on the margin. The old plants do not require to be started in heat, but should be kept rather dry until they start into growth. Plants in frames will keep safer from frost at a distance from the glass of 12 inches rather than 6 inches, but if frost be excluded the nearer they are to the glass without touching the better.

**POTATOES (Tuber).**—You may justly expect a good crop next year on old grass land broken up, although you have had a crop of Potatoes this year. Have the dead seeds well divided, and plant Ash-leaved Kidneys next April.

**MULBERRY GERANIUM (W. W.).**—You may have a rooted cutting in the spring.

**CEDRUS DEODARA CONES.**—The Rev. H. Bullock says that they are on a tree in his vicarage garden at Ewyas Harold, Hereford.

**HIPPEASTER (Miss Smith).**—The bulbs you have received with this name belong to the genus *Hippeastrum* and the natural order, *Amaryllidaceae*.

**SELECT GLADIOLI (C. Thomas).**—*Twelve extra-fine Gladioluses*—French varieties are: Geneva, Leda, Pactole, Murillo, Ondine, Psyche, Le Vesvre, Jupiter, Meyerbeer, De Mirbel, Horace Vernet, and Christophe Colomb. *Twelve second best:* Adolphe Brongniart, Ariadne, Delicatissima, Eugène Scribe, Le Phare, Legouve, Madame Desportes, Madame Furtado, Marie Stuart, Michael Ange, Orphée, and Shakespeare.

**RHODODENDRONS FOR FORCING (Ireland).**—The varieties you name may be plunged—just covering their pots—in a sheltered position in your garden until you require to place them under glass.

**SCALE ON CAMELLIAS (W. R.).**—Deficient moisture in the air of the house promotes the production of the scale insect. The following mixture is a remedy:—Soft soap, 2 lbs.; flowers of sulphur, 2 lbs.; tobacco, 1 lb.; and a wine-glass of spirits of turpentine. Mix the sulphur, turpentine, and soap into a paste with warm water; boil the tobacco for an hour in a covered saucepan in some more water, strain it, mix it with the soapy mixture, and then add enough water to make five gallons. More tender plants can only have their stems and leaves sponged with water at a temperature of 115° frequently, and so long as a single insect can be detected.

**HOLLYHOCK LEAVES DISEASED (J. P. A.).**—They are infested with the Hollyhock parasitical fungus, *Puccinia malvacearum*. Cut off all the leaves immediately and burn them, and dust over the stumps of the plants with flowers of sulphur.

**SOIL OF FLOWER BORDERS (P. McL.).**—Apply well-decomposed stable manure early in the spring, and point it in with a garden fork.

**MANURE FOR STRAWBERRIES (E. Gahey).**—If the soil is poor, stable manure may be dug into it previously to planting. Burying it 2 feet is bad practice. It should be mixed with the upper foot of soil. Bone manure between the rows should be also dug-in with a fork.

**WIRE FOR FRUIT TREE TRAINING (Careful).**—Galvanised iron wire three-sixteenths of an inch in diameter is the most generally serviceable.

**MEDLARS (An Amateur).**—Keep them in a cool place until they are decayed, or blighted, which is the technical name of the decayed state. They are then an excellent dessert fruit. The plant enclosed is Sweet-scented Verbena, *Aloysia citriodora*.

**BLACK CHERRY FOR WALL (H. F. C.).**—Against your south-west wall plant the Black Tartarian. It is quite hardy, large, and most excellent.

**DISTANCES FOR PLANTING FRUIT TREES (J. E.).**—Apples and Pears as espaliers should be 18 feet apart, and Pears on the Quince as standards should be 16 feet apart; but we would plant them 8 feet at first, and thin them out to 16 feet when the trees become crowded.

**FRUIT TREES FOR MARKET PURPOSES (J. B.).**—We advise you to grow those varieties that succeed well in the neighbourhood in which you live. The Prune and Damascene are the same. You should try the Cluster Damson or Crittenden's Prolific. It is a good bearer, and the fruit large. You could not have seen the true sort. Your selection of Plums is a good one. Have you tried Early Prolific for the earliest variety? It is the earliest market Plum. You would see what has been said about Domino Apple in our pages. Balossa, Croft Castle, and Hessele are Pears that bear enormously. You omit Williams' Bon Chrétien, Suffolk Thorn, Jargonelle, Windsor, and Beurre d'Amanlis from your list. They are all free-bearing sorts in the open ground. Some late varieties of Pears bear as freely as early sorts.

**GRAPES DECAYING (A. B.).**—The immediate cause of the decay of your Grapes is the heavy rains succeeding a long period of drought, the rains falling just at the time the Grapes commenced ripening. The border, by the long term of sunny weather, had become unusually warm, and the moisture it has since received has caused the roots of the Vines to be exceedingly active, furnishing more sap to the Vines than the foliage could appropriate and exhale—hence the bursting of the berries. That is the immediate cause of the decay. We further consider that your Vine border is deficient in phosphates, which accounts for the extreme thinness of the skins of the berries. As you have surface-manured your border for some years we advise you to carefully remove a few inches of the surface soil—just boring but not injuring the roots, and replace with fresh loam and crushed bones—3 cwt. of bones to a good cartload of loam. This would give stamina to the Vines. You can afterwards surface-dress the border with manure as usual. If you give this change of food and do not overcrop the Vines, the Grapes will acquire more substance of cuticle, and will be less liable to decay than in their present state. Had you covered the border and prevented the rain entering it at a critical time, your Grapes would have kept better. Your real remedy, however, is to reduce the humus and increase the phosphates in the border by the means suggested. If you can add charcoal and wood ashes to the loam and bones we advise you to do so. By adopting the mode now recommended we have greatly improved Vines which were in a similar condition to yours. We suspect also that you have been overcropping.

**NAMES OF FRUITS (Connaught Subscriber).**—The single Pear is Gansel's Bergamot. No. 1, Winter Nellis; 2, Comte de Lamy. (John A. Huggan).—Bonsset de Rheims. (H. F.).—It is a Physalis, or Cape Gooseberry, and not admissible in a collection of fruits for exhibition. (R. Cordell).—Golden Pippin is the Apple. The Ferns had no spores. (Scybor).—174, Nectarine Pear; 102, Beurre d'Amanlis; 205, Beurre Hardy; 123, Bellissime d'Hiver. The rest were decayed. (D., Guernsey).—A, Orle Apple; B, Blenheim Pippin; C, Formosa; D, Dumelow's Seedling; E, Blenheim Pippin; F, Formosa. (Devon).—2, Baxter's Pearmain; 4, Ribston Pippin; 5, Morning Pippin. (L. R. Lucas, jun.).—Apples: 2, King of the Pippins; 3, Scarlet Nonpareil; 17, Warner's King; 20, Adams' Pearmain. Pears: 1, Botten; 3, Fondante

d'Antonne; B, Bellissime d'Hiver. We cannot name more than six specimens. (Connaught Subscriber).—Apple: Pearson's Plate. Pear: No. 1 cannot be identified; No. 2, Leopold I. (Knutsford).—1 is a fine Apple, and is new to us; 2, Osterley Pippin; 3, not known.

**NAMES OF PLANTS (Mrs. L. Fox).**—*Eucynymus europæus*, Spindle Tree. (A Constant Reader).—We cannot name from leaves without flowers or fronds without spores.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### LES BASSES-COURS D'ANGLETERRE.

#### CHAPTER IX.—CREETING, NEEDHAM MARKET.

OUR first view of Mr. Horace Lingwood's Brahmas was across the river. We had walked from Needham station by the side of the water, and when we came to the mill we came to the Brahmas. We cannot easily forget that first peep. It had been a showery morning, but at that moment the sun was shining brightly, and the leaves just tinged with the autumnal shades shone with the drops upon them; while underneath, quite down among the rushes and sedges at the water's edge, were the world-renowned Brahmas. Instantly it flashed across our minds what Mr. Lingwood had so often written to us: "Mine is a beautiful summer place for poultry, but in winter it is terribly bad." We can only say, after anyone has seen the place for the first time, they must wonder as much as we did at the marvellous career Mr. Lingwood has enjoyed. The yards are all on the side of a little hill, and slope down to the edge of the river; they are thickly planted with large trees, and divided by wire netting. The houses are quite plain, and made of wood. There is no pretence at decoration or ornamental work which some might expect in so great an establishment, but everything seems to have been done to economise space and to make the most of everything. When we thought how for year after year the enormous winning cockerels at all the great exhibitions have come from this yard, we at once realised what skill and judicious mating and personal management can do.

This year, so far, Mr. Lingwood has certainly been behind, but it will not be for long, for we venture to think that we saw some cockerels coming on which will perfectly keep up the world-wide reputation of the Creeping Dark Brahmas. Of one thing, however, there is no doubt; an immense number of birds have been reared year after year on a very small space, and this cannot go on for ever, so it is possible that the land has become tainted, and consequently it is more difficult to keep the birds in health. Mr. Lingwood believes this himself, and this is why he is so anxious to find a fresh home with better poultry accommodation. We could only think what a pity it is that he cannot possess a few of the rich broad acres of grass that surround him closely on every side, which would then make the place a Brahma manufactory second to none, for as it is the wetness of the ground must be a very serious drawback and loss. But we will pass on to the birds.

In front of the house is a good-sized lawn surrounded with shrubs. Here the chicks are brought as soon as hatched, and when the chickens are able to pass from this run it is used again no more, but is reserved for the broods of another year. Going from this lawn we pass to the back of the house, where we find on a little run by the back door what is to our mind the hero of the yards. It is the grandest old Dark Brahma cock we ever saw; he was just getting over his moult, and with hackles the colour of a new shilling. He seemed to walk about as if "Crystal Palace first-and-cup" was written on his back. Next to him, in a run only divided by some wooden palings, were the Dark hens. We were told that they had died by half-dozens this year from some complaint which Mr. Lingwood puts down as arising from the tainted ground, but we have heard right and left this season of deaths among Asiatic hens. Some of these were still in deep moult, some just getting over it, but through old and new feathers we saw good pencilling and good shape. Then we saw old cocks (Lights and Darks) in small grass runs with tents over them. This was to keep off the sun, and we can well believe they prove very useful. Among the imates we noticed one or two splendid fellows nearly over their moult; and among all the others, who were still in "rags," we observed those neat combs and those broad backs which so mark Mr. Lingwood's strain.

The next yard was the pullet run, and this we liked the best of all. It was a triangular piece of ground, and quite on the slope. Here and there peeped out large pieces of red rock, among which the pullets had apparently made a miniature mountain pass; and as we looked at them the whole lot, quite thirty we are sure, went out for a walk, and passed one by one in single file, like so many Ducks, up the steepest part. As they passed we had a good view of every one of them, and a splendid lot they were, one or two being, perhaps, much more remarkable for pencilling than the others, and these were mostly quite young and undeveloped as yet; but we noticed here, we thought, as we have done in so many places and at so many shows, that as a rule the best pencilled birds are not the best

in shape, size, or feathering. Charming as this run looked when we saw it, we can imagine the lower part of it being a "Slough of Despond" in the winter, for when the river rises all the bottom portion is under water. Next we visited the cockerels, and a good many there were more backward than usual of course, or we should have seen them out before now, but still of great promise; one especially, still quite raw and undeveloped, caught our eye whenever we looked at them. There were about twenty in the run, and we drove them this way and that way, but on every occasion this one bird caught our eye. "That cockerel if he lives is destined for great things," we said to Mr. Lingwood; still the others were all good, and one or two not much behind the one which we spotted as "the coming B." There were some more good Light and Dark hens in the next run, and then we too climbed up the bank and found the single cocks' pens on the top. They were under the trees, and gave us the idea of being rather "drippy" in winter. Someone said to us the other day, "Chickens' runs should be shaded in just such a way that ferns would do well in them, for ferns like shade without drip, and so do chickens." Well, we do not think ferns would grow in Mr. Lingwood's single cocks' pens. The birds themselves looked healthy, and appeared to be moulting out well. Lights and Darks there were, all birds which have made names for themselves as chickens, and will in days to come make names for themselves as adults. We had now seen all the birds, and when we had had one more look at the pullets, who were still busy walking up and down among the rocks, we went away, and left with the certain impression that Brahma fanciers will in the shows to come have as much to fear from the Creeting monopoliser, especially in adult cocks, as ever they have had to fear in past seasons.—W.

### POULTRY AND BIRD NEWS.

CIRENCESTER has issued its schedule. There are no Dorking or Spanish classes. The Judges are announced, and are amateurs of high standing—namely, the Rev. W. Serjeantson, Messrs. O. E. Cresswell, and Samuel Matthews. We congratulate the Society on their selection, and wish them much success.

We learn that the Judges at the coming Dairy Show are—for poultry, the Rev. T. Fellows and Messrs. Lowe and Leno and Capt. Heaton. We are sorry this Show was not better classified, and that it chose its dates for the same days as Oxford, especially as the latter had been advertised for those days fully twelve months ago. Such good prizes and low entry fees deserve support.

We have many schedules come to hand, among them those of the Crystal Palace and Bristol. The former is much the same as usual, only the entry fee is raised to 8s. the pen. We consider this very wrong; at Oxford for 63s. first prize the entrance fee is only 6s. We will review Bristol later on; it has many new classes, and deserves great support.

The entries at Oxford have closed with a very great advance in numbers over former years. This shows surely the great faith the public must have in the management of this Exhibition. We recommend all fanciers to attend if possible, for the quality of the entries promises to be very select, and in nearly every class to be very large.

All fanciers who are desirous of the judges' names being announced in the schedules of exhibitions should send in at once their names to Mr. Wallace Smith, Breeze Hill, Walton-on-the-Hill, Liverpool, as this gentleman is getting up a memorial to managers of shows to claim this convenience. We hope all will assist in this laudable undertaking for the good of the fancy.

All who are in the habit of attending poultry exhibitions will know Mr. Beldon's manager, Job, and they will probably be surprised to hear that he has left the Goitstock yards and has set up for himself. We understand his successor is Mr. Lowe, who had for some time been with Mr. James Long, and previously with Mr. O. E. Cresswell of Bagshot.

No more news has been heard of the Portsmouth Committee. We believe one or two are bringing them to book by law. We wish these every success, and hope those who took 10s. in the pound will live to repent having backed up such a miserable arrangement.

Capt. Noman Hill has presented a £15 15s. cup for the best standard Pied Pouter cock, to be competed for at the coming Palace, Belfast, and Edinburgh Shows.—W.

### NOTTINGHAM SHOW OF POULTRY, &c.

This was held on the 3rd, 4th, and 5th inst.; but we never heard of it until ten letters came to ask for the awards. If Committees will not advertise their forthcoming exhibitions they must be often overlooked.

POULTRY.—COCHINS.—1, Miss B. Borron. 2, R. P. Percival. 3, W. A. Bunnell. BRAHMAS.—1, R. P. Percival. 2, R. Garner. 3, A. S. Webb. GAME.—1, Earl London. 2, J. Nicoll. 3, H. E. Martin. SPANISH.—1, J. Aldridge. 2, H. Blower. 3, J. Thresh. HAMBURGERS.—1, J. Smith. 2, P. Hinds. 3, A. S. Webb.

GAME BANTAMS.—1, O. Cliff. 2, W. M. Griffin. 3, F. Steel. BANTAMS.—1, H. Dracott. 2, J. C. Fraser. 3, J. Calladine. ANY OTHER VARIETY.—1, Dr. Snell. 2, J. & J. Dennison. 3, B. Smith. SELLING CLASS.—1, W. A. Bunnell. 2, H. Yardley. 3, S. T. Vernon.

PIGEONS.—POUTERS.—Cock.—1, J. Baker. 2, J. Martin. 3, F. Gresham. Hen.—1, H. Simpson. 2, and 3, J. Baker. CARRIERS.—Cock.—1, J. Baker. 2, W. F. Footitt. 3, J. E. Palmer. Owl.—1, G. Kempton. 2, J. E. Palmer. 3, H. Parker. Young.—Cock or Hen.—1, T. H. & A. Stretch. 2, W. Cartwright. 3, A. Birkleald. BARBS.—Cock or Hen.—1, J. Baker. 2, T. Hives. 3, H. Yardley. TUMBLERS.—Almond.—Cock or Hen.—1, and 3, J. Baker. 2, H. Yardley. Short-faced Balbs or Beards.—Cock or Hen.—1, and Medal. H. Yardley. 2, J. W. Edge. 3, J. Baker. Any other variety, Short-faced.—Cock or Hen.—1, and 3, J. Baker. 2, M. Weston. Any variety, Long-faced.—Cock or Hen.—1, J. W. Edge. 2, W. Wood. 3, J. Wood. English.—Cock or Hen.—1, and 3, J. Wood. 2, H. Parker. 3, J. Baker. Foreign.—Cock or Hen.—1, J. Hawkins. 2, T. Hives. 3, J. C. Taylor. DRAGONS.—Blue or Silver.—Cock or Hen.—1, and 3, R. Woods. 2, H. Yardley. Any other colour.—Cock or Hen.—1, 2, and 3, R. Woods. ANTWERPS.—Short-faced.—Cock or Hen.—1, and 3, J. Baker. 2, H. W. Weaving. 3, J. Mantel. Long-faced.—Cock or Hen.—1, 2, and 3, C. F. Herrieff. FANTAILS.—Cock or Hen.—1, J. Walker. 2, and 3, S. Swift. JACOBS.—Cock or Hen.—1, and 2, J. Baker. 3, G. C. Taylor. ANY OTHER VARIETY.—Cock or Hen.—1, R. Woods. 2, J. Baker. 3, H. Yardley. SELLING CLASS.—Cock or Hen.—1, R. Woods. 2, W. Woodhouse. 3, J. Baker.

CATS.—SMOOTH-HAIRED ENGLISH.—Male or Female.—1, R. Kitching. 2, Mrs. R. Hill. 3, C. W. Saywell. FOREIGN OR LONG-HAIRED.—Male or Female.—1, Mrs. Cheshire. 2, Mrs. Briggs. 3, G. Osborne.

JUDGES.—Poultry: Mr. E. Hewitt. Pigeons: Mr. F. Esquilant. Cats: Mr. J. Forman.

### MIDDLETON SHOW OF POULTRY, &c.

THANKS to the energy of the Secretary (Mr. Mills) and a few of the old Committee, new vigour has been added to this Society, and may we have to refer again and again to similar successes. The pens for poultry were of the old-fashioned type, but answered the purpose well, although these must be difficult of storage from year to year.

Game headed the list, and the entries were good, the colour predominating being Brown Reds, of which there were some first-rate birds, especially in pullets. In the variety of Game cockerels first was a Duckwing grand in all respects but tail, which was rather heavy; and in pullets was one of the best Blacks we have seen of late. Spanish were good in both classes, but Dorkings were not at all up to them, some being rather rough if large; Brahmas were only a moderate lot. As may be expected, the Hamburgs were a grand lot, the Gold-pencils were particularly bright in colour, the Silver-pencils being quite equal to them. In Gold-spangled cocks first was a very cheap bird, and was speedily claimed at 30s., and was a capital bird as regards marking. In hens the awards were made to the light shade of ground colour; one of a particularly rich deep ground, we thought would win, being passed over. French pout, except the first in each class, which were Crèves. In the Variety class the winners were Polish in all cases, Mr. Boothby's grand Golden hen being speedily bought at £10. Game Bantams seemed to be a rather rough lot in cocks, though rightly placed; but the hens were better, Black Reds and Piles winning. In Aylesbury Ducks first were a grand young pair, the drake turning the scale at 10 lbs. Rouens were also very good. In the Variety class first were Malagas, and second Mandarins.

Pigeons a fair entry, but the pens too small for all but the smallest varieties. In Carriers Dun and Black won respectively in both classes, the first in both cases very good in wattle. Pouters only three. In Turbits Blues won; both fair birds. English Owls a large class, but the cards not being put up till late we had a difficulty in obtaining the awards. Nuns and Magpies were—first a Nun, and second a very good Yellow Magpie. Dragons a fair lot; first Silver and second Grizzle. Antwerps were good in every section, and the awards well made. In the Variety class first was a neat little White Owl, and second a Blondinette.

Of Rabbits there were fifty-eight entries, but some pens were empty. In Lop-ears first was a Fawn of good measurement, but the award was a decided mistake, the fore legs being very crooked, which doubtless escaped the eye of the Judge. Angoras and Himalayans were poor, except those noticed, the first in the latter class far ahead of the rest.

POULTRY.—GAME.—Black-breasted and other Reds.—Cock and Cockerels.—1, C. W. Brierley. 2, J. Cock. Hens and Pullets.—1, C. R. Kay. 2, R. L. Garnett. Any other variety.—Cocks and Cockerels.—1, H. E. Martin. 2, T. Hives. Hens and Pullets.—1, C. W. Brierley. Any other variety.—Cocks and Cockerels.—1, T. P. Lyon. 2, T. Dyson. SPANISH.—Cocks and Cockerels.—1, R. Newbitt. 2, J. Thresh. Hens and Pullets.—1, J. Thresh. 2, R. Newbitt. DORKINGS.—Cocks and Cockerels.—1, and 2, J. Walker. Hens and Pullets.—1, J. Stott. 2, J. Walker. BRAHMAS.—Cocks and Cockerels.—1, T. F. Ansell. Hens and Pullets.—1, T. F. Ansell. 2, C. Holt. COCHINS.—Buff and Cinnamon.—Cocks and Cockerels.—1, R. P. Percival. 2, J. Walker. Hens and Pullets.—1, C. R. Kay. 2, R. P. Percival. Any other variety.—Cocks and Cockerels.—1, T. Stretch. 2, R. J. Wood. Hens and Pullets.—1, C. Sidgwick. 2, Whitehead. HAMBURGERS.—Gold-pencilled.—Cocks and Cockerels.—1, T. Lees. 2, H. Beldon. Hens and Pullets.—1, N. Marlor. 2, H. Pickles. Silver-pencilled.—Cocks and Cockerels.—1, H. Pickles. 2, H. Beldon. Hens and Pullets.—1, H. Pickles. 2, H. Beldon. Gold-spangled.—Cocks and Cockerels.—1, W. Bentley. 2, H. Beldon. Hens and Pullets.—1, J. T. Simpson. 2, W. A. Hyde. Silver-spangled.—Cocks and Cockerels.—1, Ashton & Booth. 2, H. Bon. Hens and Pullets.—1, S. Leuchshire. 2, Booth & Booth. Black.—Cocks and Cockerels.—1, Stott & Booth. 2, H. Hoyle. Hens and Pullets.—1, J. H. Howe. 2, S. Stephenson. FRENCH.—Cocks and Cockerels.—1, G. W. Hibbert. 2, J. E. Clayton. Hens and Pullets.—1, G. W. Hibbert. 2, T. Yates. ANY OTHER VARIETY.—Cocks and Cockerels.—1, J. Fearley. 2, H. Pickles. Hens and Pullets.—1, H. Pickles. 2, G. W. Boothby. BANTAMS.—Game.—Cocks and Cockerels.—1, W. Baskerville. 2, J. Walshaw. Hens and Pullets.—1, R. Riley. 2, W. Baskerville. Any other variety.—Cocks.—1, H. B. Smith. 2, J. Walker.

**Hens and Pullets.**—1, J. Walker. 2, T. F. Phelps. **SELLING CLASSES.**—Pair.—1, E. Hargreaves. 2, Butterworth & Howarth. **Cocks and Cockerels.**—1, E. Hargreaves. 2, R. L. Garnett. **Pullets.**—1, J. Davis. 2, R. L. Garnett. **DUCKINGS.**—*Aylesbury.*—1 and 2, J. Walker. *Rouen.*—1, T. Makefield. 2, W. H. Rothwell. *Any other variety.*—1, J. Walker. 2, H. B. Smith. **GEESSE.**—1, J. Walker. 2, T. Mills. **TURKEYS.**—1 and 2, J. Walker. **PIGEONS.**—**TUMBLERS.**—*Any other variety.*—1, S. Dyson. 2, R. White. **CARRIERS.**—*Cock.*—1 and 2, J. Walker. *Hen.*—1, J. Walker. 2, W. H. A. Miller. **POUTERS.**—1, H. Beldon. 2, J. C. Arkwright. **BARRS.**—1, J. Walker. 2, W. T. Richardson. **TURBITS.**—1, A. Simpson. 2, H. Beldon. **JACOBINS.**—1 and 2, J. Walker. **OWLS.**—*English.*—1, J. Thresh. 2, R. White. *Nuns or Magpies.*—1, R. White. 2, H. Beldon. **DRAGONS.—1, C. E. Chevasse. 2, R. White. **TRUMPETERS.**—1 and 2, F. S. Barnard. **BELGIANS.**—*Long-faced.*—1, B. Rawnsley. 2, G. Thicket. *Medium-faced.*—1, F. Grundy. 2, R. White. *Short-faced.*—1, R. Brierley. 2, R. White. **ANY OTHER VARIETY.**—1 and 2, A. Simpson. **SELLING CLASS.**—1, R. White. 2, W. A. Hyde. **RABBITS.**—**SPANISH.**—1, J. W. Baron. 2, T. E. & J. Fell. **ANGORA.**—1, J. Wright. 2, J. Jones. **HIMALAYAN.**—1, S. Butterworth. 2, H. Graver. **SILVER.**—1, T. E. & J. Fell. **ANY OTHER VARIETY.**—1, J. W. Baron. 2, H. Graver. **SELLING CLASS.**—1, H. Graver. 2, J. W. Baron.**

**JUDGES.**—*Poultry:* Mr. R. Teebay and Mr. S. Fielding. *Pigeons and Rabbits:* Mr. J. Hawley.

### MONMOUTH POULTRY SHOW.

THIS capital Exhibition was held in the market, and the quality of the birds exhibited was very good. The poultry were judged by Mr. John Martin, and his awards were very well received, in fact we seldom heard so little complaining. The Secretary did his best, and was very courteous to all. We could not find the address of exhibitors in the catalogue, an omission which we consider a mistake. The quality was on the whole good, and we think the Show annually improves under the same management and under the same Judge.

Dark *Brahmas* opened the list, but they were a poor lot, and we saw neither size nor shape among the cocks, or pencilling in the hens and pullets. The first and second Light *Brahmas* were very good, but the third was not awarded, and here, as in the Darks, we saw no great advance. Coloured *Dorkings* made a neat class of half a dozen pens; a very fair pen of old birds won first, while chickens won second and third prizes. *Cochins* made a very good class; a capital pen of White chickens won first, while second and third went to good Buffs, as all colours competed together. *French* fowls call for no comment; a good pen of *Crêves* won first, and *Houdans* second. In *Polands* a very smart pen of White-crested Blacks were first. We are indeed pleased to see how this variety is daily, so to speak, gaining popularity. Very fair *Silvers* won second and third prizes. *Hamburghs* had a good many classes, and did not respond very satisfactorily. The Golden-spangles were the best in quality, the winning pen being extremely neat and good in colour. We much admired the markings of the first Golden-pullet (pencilled). There were only two pens of Silver-pencils, and they were only moderate. *Spanish* made a very poor display, and Mr. Dean, who seems to turn his hand to every breed, won first. In the *Game*, which were all classified together, Black Reds of good quality won first. *Game Bantams* followed their larger relations; a splendid pen of Black Reds were well in first, being smart in carriage and good in colour. The variety *Bantam* class was a capital one; a beautiful pen of Whites won first, good Silver-laced second, and neat Blacks third. In the *Any other variety* class a very good pen of *Silkie*s won first, while second went to fair White *Dorkings*, and third to moderate Black *Hamburghs*. *Waterfowl* were capital, *Aylesburys* and *Rouens* being both very good. In the fancy Duck class were some neat White Calls, which we hope are entered for Oxford. The table fowl classes were failures, and such classes are not needed at prize-stock exhibitions. The Selling class was for a cock and two hens, price not to exceed £2. Now, who can expect to get three good birds for 40s.? and no one wants bad or moderate birds. We doubt very much the benefits that these sale classes are supposed to effect. *Geese* and *Turkeys* were good, and the quality up to a high standard, though the number of entries was not large. We give the prize list below:—

**POULTRY.**—**BRAHMAS.**—*Dark.*—1, E. C. Peake. 2, E. Pritchard. 3, T. A. Dean. *Light.*—1 and 2, T. A. Dean. **DORKINGS.**—*Grey or Coloured.*—1, A. Darby. 2, H. Wynne. 3, J. Ashworth. **COCHINS.**—1, Rev. R. S. S. Woodgate. 2, J. Ashworth. 3, A. Darby. **FRENCH.**—1, E. Williams. 2, S. W. Thomas. 3, E. Barnett. **POLANDS.**—1, A. Darby. 2, C. Bloodworth. 3, J. Ashworth. **HAMBURGHS.**—*Golden-spangled.*—1, J. Ashworth. 2, C. May. 3, J. Ward. *Golden-pencilled.*—1 and 2, J. Ashworth. 3, G. Ashpole. *Silver-spangled.*—1 and 2, J. Ashworth. *Silver-pencilled.*—1 and 2, J. Ashworth. **SPANISH.**—1, T. A. Dean. 2, J. Manns. 3, R. Godsell. **GAME.**—1, J. P. James. 2, J. Ashworth. 3, T. Henry. **BANTAMS.**—*Game.*—1, R. Y. Ardagh. 2, J. C. Fraser. 3, J. Andrews. *Any other variety.*—1, J. Ashworth. 2, J. W. Lloyd. 3, T. F. Phelps. **ANY OTHER VARIETY.**—1, Rev. R. S. S. Woodgate. 2, A. Darby. 3, A. Trickett. **DUCKS.**—*Aylesbury.*—1 and 2, E. A. Bailey. 3, J. Ashworth. *Rouen.*—1, E. Lawrence. 2, J. S. Maggs. 3, J. Ashworth. *Any other variety.*—1, J. Trickett. 2, E. A. Bailey. 3, Mrs. Rolis. **SELLING CLASS.**—1, T. A. Dean. 2, D. Lewis. 3, H. Haddrell. **TURKEYS.**—1, E. A. Bailey. 2, Mrs. Rolis. **GEESSE.**—1, E. Shaw. 2 and 3, E. A. Bailey.

### HULL BIRD SHOW.

THE first Show of fruit and cage birds was held in the Rifle Barracks, Hull, on the 10th inst., the entries in the latter section being close upon two hundred. The arrangements were very good, all being well placed for inspection, and the light even and good. First on the list were Belgians, but only the winners in

these were of any note, the first a bird that had evidently been touched up before, and knew his work; second also a superior bird, but not in good feather. First Yellow, and second and third Buff. In the half-breeds were some choice specimens, very light and clear in feather, but many showed too near relationship to the foreign type. Norwich (Yellow) were all clear and capital in colour, as also the Buffs, and there were some capital birds among those noticed. In the Marked of Any breed first was a four-pointed Jonque Norwich, second a Variegated Jonque Norwich, and third a Yorkshire four-pointed, but one tail feather being out, placed it lower than it otherwise would have been. Goldfinches poor, except the first, this being a bad time for these; none of the Linnets were in full bloom, although for the most part they were neatly moulted. Blackbirds and Thrushes were superior, especially some birds of the latter variety, but some were on the highway to ruin by the almost entire feeding upon hempseed. Larks a bad lot. Cage of six Canaries were—first Belgians, second Yorkshire, third Norwich, and fourth Lizards; the first a very good lot. In British birds the winners were Starlings. Grey Parrots a fair lot, the gem of this section being a splendid King Parrot in grand order. Under the head of Love Birds were included Budgerigars, a mistake in our opinion, and consequently the latter were excluded from the next class, which was really their proper place. In this class a pair of White Java Sparrows were awarded first, second Mannikins, and third Whydahs. Lizards were a very attractive class, the spangling of some of the specimens being really perfect; but only the first was perfect in cap, the third being out a little too low on one side, the second being close on the heels of the first. Points prizes were won as follows:—Canaries—Mr. Grantham, Hull; Foreign birds—J. Coker, Hull; British birds—Solomon Alcock, Hull.

**CAGE BIRDS.**—**BELGIAN CANARIES.**—*Clear or Ticked Yellow or Buff.*—1, J. N. Harrison. 2, L. Menechie. 3, J. Swain. *Half-bred Yellow or Buff.*—1 and 2, J. Swain. 3, J. Hoggarth. *vhc.* J. Baines. **NORWICH CANARIES.**—*Clear or Ticked Yellow.*—1 and 2, W. Grantham. *vhc.* J. N. Harrison. *Clear or Ticked Buff.*—1 and 2, W. Smith. 3, R. Pearson. **MARKEED CANARIES.**—*Any Breed.*—1, J. Young. 2, W. Smith. 3, J. Thackley. *vhc.* J. Thackley. *R. C. Jobling.* W. Smith. **GOLDEN and CANARY MULE.**—1, R. C. Jobling. 2 and 3, Stroude and Good. *vhc.* W. Grantham. **GOLDEN or BULLFINCH.**—1, G. Coker. 2, T. Green. 3, L. Menechie. **LINNETS.**—1, R. Pearson. 2, W. H. Batchelor. 3, L. Dickenson. *vhc.* J. Hoggarth. **BLACKBIRD or THRUSH.—1, —Watling. 2, —Comitas. 3, L. Menechie. *vhc.* Mrs. Alcock. **J. HALL LARKS.**—1 and 2, J. Barnes. 3, G. Coker. 4, H. T. Holdenby. **CAGE OF SIX CANARIES.**—1, W. Grantham. 2, J. Thackley. 3, J. Young. 4, G. Ostler. **ANY OTHER VARIETY OF BRITISH BIRDS.**—1 and 2, Mrs. Alcock. *vhc.* E. Baxter. **FARROTS.**—*Grey.*—1, T. Talnes. 2, Mrs. Jackson. 3, J. Scott. *Any other variety.*—1 and 2, J. Coker. 3, H. Talnes. **PARROQUET or LORIS.**—1, J. Whitaker. 2, Sir T. A. C. Constable. 3, J. Coker. **COCKATOO.**—1, J. Coker. 2, M. Jackman. 3, Mrs. J. Chappell. **LOVE BIRD.**—1, J. Coker. 2, 3, and *vhc.* J. Coker. *Extra.* Mrs. J. Chappell. **ANY OTHER VARIETY OF FOREIGN BIRDS.**—1, J. Coker. 2, E. Baxter, jun. 3, J. C. Griffin. **LIZARD.**—*Gold or Silver-spangled.*—1, J. N. Harrison. 2, J. Thackley. 3, Cleminson & Elerton. *vhc.* G. Ostler. **ANY VARIETY.**—1, —Gowen. 2, J. Coker. 3, J. Baines.**

**JUDGE.**—Mr. E. Hutton, Pudsey.

### PRESTON PIGEON SHOW.

THE first Show, which is intended to become annual, was held in the Bull Assembly Rooms on the 11th and 12th inst. The entries were very good, being about 450 in all, but nearly three hundred had to be refused on account of the incapacity of the room to accommodate them.

Carriers headed the list, and in cocks were some good birds, the first going to a Black in good order; the second, a Dun, was young, very promising, but not quite up in feather. In hens the first and cup for the best bird in the Show was awarded to a capital Dun a little short of beak wattle, but in splendid form; second a Black, good in beak, but not so good in eye wattle. Pouters were—first a White in capital blood; second Black, a little dull in colour; and third Blue. All cocks. In *Almonds* a hen was put first and a cock second, both good and well broken. *Jacobins* a very good class. The first a snug-looking Red, and second of that colour, the third Yellow, good in points, but a little coarse. *Turbits*, first and third Silvers, and second Blue, all good and clean-thighed; and in the next class first was a Yellow, as also second, the third Black. The first was the better class. *Fantails* a fair lot, but some not quite out of moult; second was a Blue. *English Owls* were both large classes, and in cocks were some very perfect-headed birds. First and second Blue, and third Silver, nearly every bird being noticed. Hens were not as good as a whole, but a grand Silver headed the list, the others being Blue. *Dragoons*, Blue or Silver, produced some perfect-headed birds, Blues winning in two cases and Silvers third. Red and Silver were not superior as a class, but the winners were good; the Red placed first was a slashing fellow, second a Yellow. Any other colour were—first and second White, and third Grizzle. The Young class was very large and uncommonly good. The first a Yellow, second Silver, and third a Blue. *Antwerps* in all classes were very good, and even these seem to be improving in style, which is very desirable. *Trumpeters* were a better class than is usually seen, and the prizes were won by the same exhibitor. In *Tumblers*, *Long-faces*, first was a neat sound-coloured Yellow Mottle, second a Bald, and third a Beard. In the Variety class first was a White Owl, second a

Blondinette, and third a Fairy Swallow. The Selling classes were large, and contained some cheap birds, some of which changed owners.

**PIGEONS.—CARRIERS.**—Cock.—1, E. Beckwith. 2 and 3, J. Kendall. *vhc.* H. Yardley, J. Kendall, E. Beckwith. *Hen.*—1, J. Kendall. 2, E. Beckwith. 3, H. Parker. *vhc.* H. Parker, T. H. & A. Stretch, E. Beckwith. **POUTERS.**—Cock or *Hen.*—1, E. Beckwith. 2, E. A. Thornton. 3, J. Royle. *vhc.* A. P. Byford, H. Crosby. **TUMBLERS.**—*Short-faced.*—Cock or *Hen.*—1 and 2, H. Yardley. 3, E. Beckwith. *vhc.* E. Beckwith, H. Crosby. **BARRES.**—Cock or *Hen.*—1, E. Beckwith. 2 and 3, J. Royle. *vhc.* H. Yardley. **JACOBIANS.**—Cock or *Hen.*—1, 2, and 3, W. Harrison. *vhc.* J. Gardner. **TURBOTS.**—*Blue or Silver.*—Cock or *Hen.*—1, J. Gardner. 2, H. Yardley. 3, E. A. Thornton. *vhc.* A. P. Byford, H. Crosby. *other colour.*—Cock or *Hen.*—1 and 2, E. Beckwith. 3, J. Gardner. *vhc.* A. Roberts. **FANTAILS.**—Cock or *Hen.*—1, J. Walker. 2, W. J. Warhurst. 3, J. F. Loversidge. *vhc.* J. Walker, J. Wood. **OWLS.**—*English.*—Cock.—1, T. Pinecock. 2, H. Verdon. 3, J. W. Stansfield. *vhc.* J. Brown, E. Beckwith, T. H. & A. Stretch, J. Booth, W. Harrison, J. W. Stansfield. *Hen.*—1, J. W. Stansfield. 2, J. Royle. 3, T. Pinecock. *vhc.* J. Brown, H. Verdon, J. Fielden. **DRAGONS.—*Blue or Silver.*—Cock or *Hen.*—1 and 2, J. Stanley. 3, C. Waddington. *vhc.* J. Warner, H. Yardley, A. McKenzie. *Red or Yellow.*—Cock or *Hen.*—1, R. and J. Ercroft. 2, J. Stanley. 3, J. Gardner. *vhc.* J. Gardner. *Any other colour.*—Cock or *Hen.*—1, J. Gardner. 2, A. McKenzie. 3, T. Charnley. *Any colour.*—*Young.*—1, R. & J. Ercroft. 2, W. Smith. 3, T. Putman. **ANTWERPS.**—*Red or Blue-checked.*—Cock.—1, J. Kendrick, jun. 2 and 3, R. & J. Ercroft. *vhc.* R. and J. Ercroft, J. & J. Bradley. *Any other colour.*—Cock.—1 and 3, R. & J. Ercroft. 2, F. Eastwood. *vhc.* R. & J. Ercroft, W. Hilton. *Long-faced.*—Cock or *Hen.*—1 and 2, C. F. Harrieff. 3, R. & J. Ercroft. *vhc.* R. & J. Ercroft, W. Hilton. *Any colour.*—*Young.*—1, C. Gamon. 2, T. Charnley. 3, J. Kendrick. *vhc.* R. & J. Ercroft, J. Stanley. **TRUMPETERS.**—Cock or *Hen.*—1, 2, and 3, J. Beckwith. *vhc.* E. A. Thornton. **NUNS OR MAGPIES.**—Cock or *Hen.*—1 and 3, E. Beckwith. 2, O. J. Moulds. **TUMBLERS.**—*Long-faced.*—Cock or *Hen.*—1, H. Crosby. 2, E. Walker. 3, J. Brown. **LILKEST BIRD FOR FLYING PURPOSES.**—1, G. Haycock. 2, J. Hobson. 3, F. Eastwood. **ANY OTHER VARIETY.**—1, J. Royle. 2 and 3, Extra. *vhc.* R. & J. Ercroft. 3, F. Harty. *Extra.* 3, J. Ercroft. *vhc.* J. Kendall, J. Royle. **Selling Class.**—F. Eastwood. 2, E. Beckwith. 3, E. Hamsworth. *Cock or Hen.*—1, E. Beckwith. 2, J. Young. 3, E. G. Keay.**

**JUDGES.**—Messrs. E. Hutton and W. Sefton.

## DO BEES GATHER HONEY OR MAKE IT?

My simple answer to this question, which has been again brought to the front in this Journal, is that the latter is an impossibility. Unless bees bring sugar into their hives apart from the substance which Mr. Pettigrew calls crude honey, or excrete it from their own bodies, they gather it abroad from fruit or flowers, or in rare instances in the form of honeydew. Mr. Pettigrew's notion is that bees excrete it from their own bodies, and in support of his opinion he quotes the statement of a certain Professor Riley, an American, by whom the truth is so well told that Mr. Pettigrew ventures to repeat it in two successive issues of this Journal. "Honey," he says, "is a secretion of bees to some extent as well as wax." But presently he says that the "crude honey found in flowers and gathered by the bees is afterwards changed and converted into honey proper. After having been gathered and disgorged it is reswallowed, and then passes through a process of preservation, in which it is thickened and sweetened, resulting in honey, as the Professor puts it." With all respect to Mr. Pettigrew I must say, as I have said before, that these random and curious assertions are not proven, and therefore the truth of this presumed fact is still lying in dreamland.

It is singular to observe how ready Mr. Pettigrew is to endorse the notions and statements of this American gentleman, happening as they do to coincide with his own opinions, whereas a while ago, in respect to the value of Italian bees, the testimony of a number of Americans was ridiculed and condemned by him, in common with everything from America, in the most unmeasured terms. I repeat, with all respect both for Mr. Pettigrew and his American friend Professor Riley, that we have as yet nothing but bare assertion for all these curious statements. True, there is an allusion to a certain other American, a "chemist and botanist of Louisiana, who described the changes undergone by nectar in the elaboration into honey in the bee's stomach." Now this is just what we want to know. Will Mr. Pettigrew favour us with the data upon which this chemist founded his argument? Doubtless the same authority which notified the fact to the "Housekeepers' Convention in St. Louis," also contains the details of this remarkable discovery, which certainly was new to the *Journal of Horticulture* till it was mooted by Mr. Pettigrew. I can imagine no more interesting subject to bee-keepers, on which the patient and exhaustive mind of the scientific President of the British Bee-keepers' Association, Sir John Lubbock, might be brought to bear, than this question of the presumed manufacture of honey in the stomach of the bee, if indeed he should think it worth a second thought. At present I say we have nothing but statements and assertions in support of the theory, which without the most satisfactory proofs will remain assertions and nothing more, however frequently and persistently reiterated.

The secretion of wax from honey is an entirely different thing, for honey is known to be little more than the quintessence of sugar, which contains the fatty elements which are the ingredients of wax. But where does the sugar come from? Mr. Pettigrew says it is not found in the crude honey gathered in the flowers, it is elaborated in the stomach of the bee. Is it so? Prove it, I say. It must, however, be elaborated out of something in the stomach of the bee. For "out of nothing

comes nothing." Now, Mr. Pettigrew, please to tell us what is that something out of which bees make honey; but in the name of everything that is scientific, do not repeat the same tale in the same form. Till the proof positive is furnished, or at least till reasonable grounds for believing such a very extraordinary thing are supplied us, nobody will be convinced whose opinion is worth a groat.

Of course, we all know very well from our first practical experience of honey, that at first, especially at certain seasons, particularly towards the close of the honey season, it is thin and watery. You may call this crude honey if you like. I do not object to the term. Also, of course, we all know that bees transport the honey from cell to cell. At first they put it into any vacant cell which happens to be ready for it. At night, or on wet or gloomy days, it is carried away if there be a good quantity of it in the cells usually appropriated to the queen's use for breeding purposes, and removed to the permanent honey stores wherever these may be. In process of transfer the bees reswallow it and disgorge it. All this we know well. I for one believe (and it is at least a reasonable belief, that owing to the heat of the hive a great evaporation takes place in the honey, both when deposited temporarily and when transferred, and that it thickens, and, of course, becomes sweeter and richer in the process of thickening. But do not tell me that the bees have a conjuring power hidden somewhere in their diminutive honey sacs, which are scarcely larger than a big pin's head—a power to convert the watery sugarless juice (according to Mr. Pettigrew), extracted from flowers into real honey by means of the sugar latent in the said tiny sacs.

Now for a bit of real "fact." A friend of mine, who is such an enthusiastic bee-keeper that he can never let bees alone wherever he finds them, tells me that about seven weeks ago, happening to be visiting a lady in Staffordshire who keeps bees, he offered to take her honey for her. This was done, and on carefully examining the combs, which were rich in honey in open cells among the brood as well as in the upper stores of the hive, he could see no difference in the honey. What was in the open cells was just as rich and as perfect honey as that which was sealed-up. He pointed out the circumstance to his hostess in special reference to Mr. Pettigrew's theory, with which he was well acquainted. Now, I do not mean to say that this uniform richness is to be found under all circumstances and in every season alike the same. I know it to be otherwise. But in this instance the bees were still hard at work bringing honey into the hive; and it is a proof of the remarkable productiveness of the season, that quite to the last the honey was as rich or nearly so as it had been at the beginning. There was no crude honey in the hive at all. Can Mr. Pettigrew account for this on his theory? Usually the case is very different. In this country, at least, our honey is uniformly thick and very rich in May. It is gathered from the April and May fruit blossoms, especially from the apple blossoms. In June that gathered from the early white clover is still rich, though paler than that gathered earlier. In the latter part of July and early August it is often very thin and poor with an acrid flavour; and at this time, when the honey harvest usually takes place, there will be found all the difference which Mr. Pettigrew describes between his crude syrup in the open cells and the richer honey stored in the upper part of the hive.—B. & W.

## HOW I OBTAINED 131½ LB. OF HONEY IN SUPERS FROM A STOCK OF BEES IN A STRAW SKEP.

THE stock which yielded the honey exhibited I bought, together with three others, at a sale of farm stock, October 29th, 1875. It then weighed about 30 lbs. gross. Early in the spring of this year I intended to have driven out the bees and to have placed them with their comb in a bar-frame hive. During March and April this hive was treated similarly to all my others—namely, fed gently with barleysugar and liberally supplied with artificial pollen. The great benefit arising from this treatment was strikingly shown in this particular hive. It was kept snug and warm, and young bees were being "brushed down" very early whenever there was a gleam of sunshine. The numbers increased daily so rapidly that I had doubts about disturbing the brood comb in transferring to the bar-frame hive. I was advised to let well alone, and to wait until twenty-one days after swarming before I disturbed the combs. Meanwhile to delay swarming a little, and to increase the chance of a very heavy swarm I put on a box of sectional supers on May 24th. This was instantly crowded, and on June 1st was nearly full of comb and honey. It was then that I determined to give additional room, to work as many supers as possible, and to defer transferring until autumn.

I placed another sectional super with a slit in the top under the partly filled one, and June 17th both supers were full and being sealed. Sunday and Monday, June 18th and 19th, were hot and sultry days. A swarming mania seized my apiary. In bar-frame hives I generally prevented swarming, but from the skeps out the bees would come. Among others an enormous



swarm issued from this particular hive, deserting both supers. This was the heaviest swarm I ever saw. While the bees were clustering on a small pear tree I took off the supers, turned up the hive, found that it was full of brood, cut out seven queen cells, placed a Lee's Crystal Palace prize super over the skep, and upon it side by side the deserted sectionals, and on them a Pagden's straw super. I wrapped up all warmly, returned the bees, and in an hour they were working with a will into the four supers. Daily the strength of the hive increased, and on June 24th there was not room for the bees in the hive and supers, for as the bees increased the space was occupied with combs, and nearly a gallon of bees towards evening were clustering outside. I now tried a plan which was most effective. I wedged up the whole from the floorboard a quarter of an inch, and against the side of the hive on a floorboard placed a second straw super. The cluster at once took possession, and for a time every bee was again at work. On the 29th the cluster again began forming, and I then lifted the side super, finding it heavy with comb, and placed a third straw super under it. Here was a combination of the storifying with the collateral system. The desired effect ensued. The six supers were filled with bees. They had bitten an entrance into Lee's super at a projecting corner through thick cardboard (which for the nonce I had employed as an adapting board), so that three streams of workers poured into the pile—one to the mother hive, one to the corner of the projecting super, and one to the side supers. July 3rd I took away two sectional boxes 35 lbs. weight, and replaced them by two similar boxes. Lee's was full and sealed, but I could not remove it, as it formed a foundation to the pile and also gave a high road to the bees without passing through the stock hive. July 14th I took away the third sectional super and put another in its place. This fifth box was not exhibited, being full of comb at the end of the honey harvest, but not sealed. I left home at this period for ten days. Upon my return the honey season had finished, and I removed the three straw supers as exhibited, Lee's Crystal Palace super, and the fourth sectional super. The bees, a numerous colony, with all their combs and a store of honey in dark combs from other skeps I transferred last month into a large bar-frame hive, and up to this date they are being fed gently and are hatching out brood.—P. H. PHILLIPS, *Hitchin*.

### A THEORETICAL NOTION.

THERE has appeared in print more than once a theoretical idea or suggestion resting on the fact that when bees have no brood to nurse they have more time for field labour, and therefore queens should be removed from hives in order to let the bees have more room for honey and time to gather it. If this be done, says an American, hives will be speedily filled with honey. This idea is plausible and easily understood. Is it of any importance or value?

When bees have no young brood to nurse they are, of course, more at liberty for outdoor work; and when they have plenty of sweet empty combs or cells to fill, and none to make, honey is more speedily gathered and stored up. These things are well understood. For instance, if a large swarm be put into a hive full of young empty combs the bees work very fast and gather a great deal of honey on the first four or five days. During this time almost all the bees are at liberty for field work, and often a great accumulation of crude honey is gathered. Presently this honey and the brood of the queen require attention. Indoor duties multiply fast; less outdoor work is done. Again, how often do we witness an increase of activity on the part of field workers after a short season of apparent rest during unfavourable weather. One day of rest seems to recruit the powers of these labourers. In our youthful days we fancied that bees rested and were recruited in strength on wet days in summer. We did not reckon up the unseen duties of home life. Owing to the industrious instincts of the honey bee—gathering honey while the sun shines, the indoor workers are rather heavily taxed, and cannot always store away the honey as fast as it is gathered. The crude honey found in flowers is first deposited in the central combs by the field workers. The removal of this crude honey, the elaborating and perfecting it in their bodies, and afterwards storing it in other parts of the hive, form part of the home duties of bee life. The arrears of indoor work are brought fully up during a season of rest: hence the apparent increase of activity after a rainy day or two.

But the question involved is this, Would the removal of a queen from a hive be an immediate advantage to the bees by making their indoor duties less? Would more honey be gathered? Would a queenless hive without brood collect more stores than one with a queen and an increasing population? There is room enough for doubting here. I have never known a queen removed in order to give the bees liberty for work and room for honey-gathering. Is it possible to believe that the removal or loss of a queen can be of temporary or permanent advantage to a hive? If a stock hive lose its queen before swarming it sustains a severe check and serious loss, and falls far

behind those that retain their queens; and if a first swarm lose its queen shortly after being hived, say within fourteen days, it is all but ruined—at least it can never appear beside one of equal size that has not lost its queen. My experience does not support the theoretical notion of removing queens from hives with a view to obtain more honey. The idea appears to be the outcome of inexperience—a thought that has occurred to some, and not an ascertained fact.—A. PETTIGREW.

### OUR LETTER BOX.

**CORRECTION.**—At page 337, column 1, line 37 from bottom, for "whole" read "old."

**CANTERBURY SHOW.**—We are informed that the first prizes are mostly 30s., and not 20s. as we stated mistakenly.

**JAPANESE SILKIES BOOSTING (Mark).**—We allow all chickens to perch as soon as they are desirous of doing so. We have none but wide perches. The cocks at twelve weeks old show more tail and more comb than the pullets. As a rule they are also larger.

**FEEDING BRAHMAS (Constant Subscriber).**—The only alteration we should make in the dietary scale you give, would be that at night we should be inclined to give soft food, such as meal and sharps well kneaded, instead of hard corn. Of course, much depends on what may be considered as "plenty" of green food, but if the fowls have the run of a garden of half an acre, in which kitchen cultivation is carried on, they should do well under your management.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876.	Barometer at 89p and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Oct.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 11	29.811	59.1	55.4	S.E.	56.7	63.7	53.2	89.1	48.5	0.090	
Th. 12	29.708	56.8	53.2	S.W.	55.3	63.5	49.4	92.7	42.4	0.450	
Fr. 13	29.571	60.5	60.0	S.	55.5	63.6	54.3	88.2	48.0	0.050	
Sat. 14	29.683	56.4	55.2	S.W.	55.0	60.1	48.2	83.4	42.3	0.090	
Sun. 15	29.966	50.4	49.0	S.E.	54.3	60.7	38.7	89.8	32.4	—	
Mo. 16	29.714	52.9	52.9	S.	51.7	62.3	39.8	87.1	33.1	—	
Tu. 17	29.693	59.3	57.6	E.	52.8	68.0	47.8	98.5	40.0	—	
Means.	29.664	56.5	54.6		55.7	63.1	47.3	89.3	41.0	0.060	

### REMARKS.

- 11th.—Early morning fine, rest of day very showery; starlight night.  
 12th.—Very fine bright morning, afternoon misty; wet night.  
 13th.—Dark and rainy, heavy at times till 3.45 P.M., then sunny for a little time, afterwards dull again; bright starlight night.  
 14th.—Early morning dull, rain commenced about 10 A.M., and continued for some hours, bright for a short time in afternoon; evening foggy; fine night.  
 15th.—Cooler, but a fine day throughout, with bright sunshine.  
 16th.—Foggy, with rain in first part of morning, bright and sunny afterwards; fine night.  
 17th.—Much warmer, and a very fine day, although slightly hazy.—G. J. SIMONS.

### COVENT GARDEN MARKET.—OCTOBER 18.

THE bulk of common goods has now been sent, and the market consequently begins to assume a bare appearance. The better classes of Apples are now being sought after, and prices are improving. Kent Cobs with a bare supply are realising their full value.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	to	5	Nectarines.....	dozen	1	0	6
Apricots.....	dozen	0	0	0	Oranges.....	£ 100	0	0	24
Chernuts.....	bushel	0	0	0	Peaches.....	dozen	2	0	13
Currants.....	£ sieve	0	0	0	Pears, kitchen....	dozen	0	0	0
Black.....	£ do.	0	0	0	dessert.....	dozen	2	0	4
Figs.....	dozen	1	0	3	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	6	1	Plums.....	£ sieve	7	6	10
Cobs.....	lb.	0	8	1	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse..	lb.	0	6	0	Strawberries.....	lb.	0	0	0
Lemons.....	£ 100	12	0	18	Walnuts.....	bushel	5	0	8
Melons.....	each	2	0	5	ditto.....	£ 100	1	6	2

#### VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	4	0	6	0	Leeks.....	bunch	0	4	0	0
Asparagus.....	£ 100	0	0	0	0	Mushrooms.....	potlode	0	6	1	6
French.....	bunch	0	0	0	0	Mustard & Cress	potted	0	2	0	0
Beans, Kidney.....	£ lb.	0	0	0	6	Onions.....	bushel	2	0	5	0
Beet, Red.....	dozen	1	6	8	0	pickling.....	quart	0	4	0	0
Broccoli.....	bunch	0	9	1	6	Parsley.... doz.	bunches	2	0	4	0
Brussels Sprouts..	£ sieve	8	0	4	0	Parasnis.....	dozen	0	0	0	0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	6
Capsicums.....	£ lb.	1	6	0	0	Kidney.....	do.	0	0	0	0
Cauliflower.....	dozen	3	0	0	0	Radishes..... doz.	bunches	1	0	1	6
Celery.....	bunch	1	6	2	0	Rhubarb.....	bunch	0	8	0	9
Coleworts doz.	bunches	2	0	4	0	Salsafy.....	bunch	0	9	1	0
Cucumbers.....	each	0	2	0	9	Scorzoner.....	bunch	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	3
Fennel.....	bunch	0	3	0	0	Shallots.....	lb.	0	3	0	6
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	1	6	2	0
Herbs.....	bunch	4	0	0	0	Tomatoes.....	£ sieve	4	0	6	0
Khorradish.....	bunch	4	0	0	0	Turnips.....	bunch	0	4	0	6
Lettuce.....	dozen	0	6	2	0	Vegetable Marrows.....	do.	0	2	0	6

## WEEKLY CALENDAR.

Day of Month		Day of Week.	OCT. 26—NOV. 1, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
Day.		Night.		Mean.	h. m.		h. m.		h. m.		h. m.		h. m.		Days.	m. s.			
26	Th	J. Strutt born, 1742.		55.6	36.5	46.1	6 45	4 43	2 42	11 49	9	16	0	300					
27	F	Alphonse de Candolle born, 1806.		55.1	38.4	46.7	6 47	4 41	2 56	morn.	10	16	5	301					
28	S	20 SUNDAY AFTER TRINITY.		54.5	35.9	45.2	6 49	4 39	3 7	1 4	11	16	9	302					
29	Sun			54.0	35.7	43.8	6 50	4 37	3 17	2 18	12	16	13	303					
30	M			54.9	38.3	46.6	6 52	4 35	3 28	3 34	13	16	16	304					
31	Tu			53.5	38.0	46.0	6 54	4 34	3 40	4 53	14	16	18	305					
1	W			52.1	37.9	46.1	6 56	4 31	3 56	6 16	●	16	19	306					

From observations taken near London during forty-three years, the average day temperature of the week is 54.2°; and its night temperature 37.1°.

## VIOLETS, AND THEIR CULTURE.

**A**T a time when many are purchasing plants for stock and others making up their Violet beds for the winter, it may not be inopportune to offer a few remarks on the culture of this favourite flower. I am the more induced to do this as, since my notes on Violet odorata pendula appeared on page 298, many correspondents have asked me to give them a few hints on Violet-growing. I have replied to some privately; but within the limits of a letter it is hardly possible to do more than give a few general directions, or even to give them to everyone who asks. I will therefore enter somewhat more into details, premising that I do not write for the skilful in such matters, as many of the readers of "our Journal" must be, but for those to whom a few plain directions will prove acceptable and helpful.

The great mistake with many writers is that they are not explicit enough; they are apt to fancy that nearly everybody knows as much as they do themselves, and are consequently afraid to enter into details which they think are familiar to all. Now I must try and believe, imperfect though my knowledge is, that there are others who are in a still worse plight than myself—people who, though they love Violets, have not the remotest idea how those who grow them successfully and manage to have them for six months of the year, accomplish those results. As far as I know, then, they shall know; and I will promise them that if they attend to my directions they shall meet with a fair share of success.

Everyone, though, is not so advantageously situated as I am. This is a land of Violets. From February to May the hedgerows, copses, lanes, and fields are in many places carpeted with the delicate blossoms of this humble yet precious little gem; while at every roadside you may make sure of gathering a few if you wish. As long as I can remember Violet-picking has been one of my delights; and when absent from dear old Devon nothing ever reminded me so much of home scenes as the sight and perfume of Violets. I quite sympathise with one of my correspondents who writes, "Violets here, alas! are few and far between: when we lived in Devonshire we could get as many as we liked." Well, cheer up, friend; even now if you want Violets, and want them enough to be content to take a little trouble to grow them, this can no doubt be accomplished. Where soil, situation, and climate are propitious, as they are here, some of that trouble may be saved, but not all. Listen, then. If you must have Violets and plenty of them—Violets not only in spring, when they come because they can't help coming, but Violets in autumn and winter too—Violets not for one month of the year only, but for six or seven right away, make up your mind to this: No rough-and-ready or lazy-bed systems will do. There must be strict attention to the following rules, or you will not succeed:—1st, Divide your plants in spring; 2nd, Attend to them in summer; 3rd, Give them room and good quarters in autumn.

Now, having impressed these general directions on your memory, follow me while I amplify a little and explain. What do you mean by "divide your plants in spring?" Why, just this: Many people have an idea that the making of a Violet bed is work that has to be done about once in a lifetime. They have but to procure plants, stick them in, and then go on gathering continually year after year. Not long ago a lady said to me, "Violets don't do with us at all, and yet I cannot make it out. The plants seem healthy enough, but we get hardly any flowers. What can it be?" Lazy-bed system, of course, I thought; and so it proved. There they were, all run together into one great mass. Flowers! why, how could they flower? Two or three wretched little blooms might manage to hang themselves out on the edges of the great straggling mass; but whatever superfluous energy the plants had was expended in a nearly hopeless struggle for existence—about twenty crowns competing with each other in every 6 square inches of soil. No, that is not the way to have flowers. If you want your plants to bloom you must at all events give them elbow-room if nothing more.

I will suppose, then, that you have a bed of this description, or plants of some sort run together more or less as they will be by spring, and that April—sunny, rainy, fickle April—has come, and that you have gathered your last Violet. Let this be the beginning of months to you as far as Violets are concerned—a finishing-up of the old year and a coming-in of the new. First you want a new bed and fresh soil to set your infants in. Let it be well worked and aired and liberally manured with either very decayed manure, or, better still, with leaf soil; and if your soil is heavy the addition of a little sand is beneficial. As to situation, I quite agree with Mr. Lee that an open one is the best; but in this you must be somewhat guided by circumstances. If you dwell in a congenial clime where the dry and scorching air of summer is tempered by mild and balmy sea breezes, and where frequent mists roll up from the bosom of the great Atlantic and water the face of the earth, then do as I do—plant your Violets out in a sunny and exposed position, and they will do better than if shaded by trees or drawn-up by hedges. But if, on the other hand, your lot is cast in a dry and thirsty land, where the rays of the sun are powerful and the rainfall is under the average, give the Violets the benefit of a little shade if possible, or the shelter of anything that tends to lessen the excessive evaporation. A border under a hedge (not a wall) facing east is as good a position as can be found.

Having your beds ready, take up your plants and pull them to pieces, planting out each crown separately at distances varying from 6 inches to a foot, according to the variety. The weaker growers, such as the Neapolitan and King, require, of course, less room than such strong sorts as Victoria Regina and Czar. Give the fresh plantation a good watering, to be repeated if the weather is very dry at intervals of a day or two, until you see that the plants are established and your spring work is done. Now do not forget my next admonition. Attend to them

in summer. Summer is a trying time for the Violet. The heavy rains and cold dewy nights of spring and autumn it revels in; winter with its frost and snow it endures with impunity, even the most severe cold only checks it for the time; as soon as the rays of the sun liberate its drooping leaves it is up and growing again. But summer with its scorching sun and drying winds it cannot withstand, and holds out signals of distress; then comes the red spider and adds to its misery. Do not forsake it, then, in its hour of need—no, not even for the Roses. Give it copious artificial showers, and permit no robber from without or within to share the welcome supply—*i.e.*, pull up weeds and remove suckers. You will have your wages paid in full. When the last Rose of summer has faded away, and the dulllest and dreariest part of the year has come, your little friend which you helped in adversity will gladden your heart with grateful blossoms and delightful perfumes. Think of that, and the large watering pot will not seem so heavy.

As the summer draws to a close and the nights become longer and more dewy, if you have attended to my instructions you will perceive a sudden increase of vitality in your Violet beds. Bright green leaves will be thrown up in abundance, and soon you will discern the little flower buds clustering close round the hearts of your plants. Prepare then for a fresh move; for the harvest is near, and almost before you think you will gather the firstfruits. Now is the time to carry out rule No. 3—Give them room and good quarters to bloom in. If you wish to bloom your plants where they stand see that they are not crowded; thin-out if they are, and cut off runners close to the crowns. If you mean to grow some in frames you will of course need a fresh bed. One lady writes me, "I have not met with much success in growing the Neapolitan Violet. Will you kindly give me particular directions how the bed should be made?" To begin with, then, do not trust to your bed. The best of soil will never make your Violets bloom well if they have been neglected previously. Poor, weak, half-starved crowns cannot produce satisfactory flowers, simply because the flowers are not in them, and therefore no bed can get them out of them. A strong healthy crown in September has all its blossoms already stored up in embryo; and the great object of planting the Violets out in blooming beds is that that they may have room to develop themselves, and to allow the cultivator to protect them and to harvest them conveniently and in the best possible condition when they have come to perfection. A suitable soil and a favourable situation are, it is true, great aids. The blooms will be finer, higher coloured, and better shaped, but the foundation must have been laid during the previous spring and summer.

As to the soil, almost any will do that is rich, moderately light, and sweet. Here we have usually planted out the Neapolitans for frame-culture where the ridge Cucumbers or Vegetable Marrows have previously been grown, bringing up and mixing with the surface soil some of the under stratum of decayed manure. In such a soil and in a sunny position Violets thrive admirably. The frames are on from October to April, and plenty of air is given when there is no frost.

As to sorts. If asked to name the three best doubles, distinct colours, I should say, First and foremost *Odorata pendula*, deep mauve, red eye; then *Neapolitan*, lilac, very lovely, large and sweet; *Queen*, large white, usually shaded with purple. This is a fine Violet, but rather uncertain. I have only once succeeded in blooming it well in autumn, and it sometimes fails in spring. Three best singles: First, *Victoria Regina*, out-and-out the best, for which thanks are due to Mr. Lee; colour light bluish-purple. The blooms are very large and well shaped and deliciously sweet. *Czar*, deep purple, good and free. *White Czar*, a stronger-growing variety of the common white hedge Violet; flowers pure white, and very good; but I wait for a better.

We do not find it necessary in this mild climate to give protection to any of the singles in winter; the frames are reserved for the doubles. To the above list of doubles I may add *Marie Louise*. This is a very pure white and quite free from purple shading, and is a very chaste and elegantly shaped flower, and a free bloomer.—R. W. BEACHEY, *Kingskerswell, Devon*.

### THE AIR-TIGHT VINERY.

The principle on which this vinery has been constructed was and is to stop out all external air, with the exception of the small quantity which might come in through the crevices. I described this house some months since, but as a large crop of

Grapes has been ripened in it this year—*Muscadines* chiefly, but also well-blackened *Hamburgs*—an allusion may be again made to this simple plan of growing Grapes.

In order to ripen a crop of Grapes thoroughly without artificial heat it is necessary to obtain a larger amount of long-continued heat from the sun, and this can only be effected on the bottling-up principle. The exclusion of air, and allowing the temperature to rise to 100°, would in the ordinary house cause total destruction to the crop if this heat without air were continued several hours together. The house I am describing has been built seven or eight years, and not a leaf has been scorched by the sun. There are no ventilators, and the door is never opened excepting when anyone enters, and it is then closed immediately, the principle being never to let out the heat. Anyone going into this house when the sun shines on it fiercely is glad enough to make his escape. The mode of construction is this: Form two flat glazed sides 8 feet in height and any length (this house is only 7 feet), let the width between the flat sides be 8 feet at bottom and 4 feet at the top, the ends to be upright, with a door in each end. This house is to run north and south. The south end is to be whitewashed in summer to prevent red spider. No attention is necessary after thinning the crop, excepting watering the path during the heat of the day. I counted sixty-three bunches on 6 lineal feet of one side. The whole crop was finished a fortnight since, quite ripe and highly flavoured.—OBSERVER.

### PEAS IN 1876.

As Peas are greatly influenced by the weather, I will epitomise it as it has been in "the north." A dull cold spring, the cold reaching its climax in the middle of April with frost (thermometer 15°) and snow. Early summer cold and dry, mid-summer for about a fortnight in July moist, then excessively hot for a month; late summer one continuous term of wet; from the last week in August up to the early part of October there has been but few fine days.

Early Peas have done well. Unique, a dwarf kind of about 18 inches in height, gave its first dish on June the 30th. It was very prolific, with the pods well filled. The crop came in all, or very nearly, together. It must take a good place as a market kind.

*William I.* was in at the same time as Unique, the last having the benefit of a south wall, which the first had not. It is the very finest of all Peas for earliness, having deep green well-filled pods.

*First and Best* was a few days later, and was more prolific than *William I.*; but white Peas are not cared for when a green Pea is at command. It is, however, the best early kind for general purposes.

*Alpha*, with its large well-filled pods of blue (wrinkled) Peas of exquisite flavour, came next—only a few days after *William I.*, and was good in every respect.

*Dr. Hogg*, of which I had a long row, was excellent; it was quite as early as *Alpha*, and more productive than that kind. The Peas were of a deep green colour and very good.

*Maclean's Dwarf Prolific* (*Prince of Wales*) did not do so well as usual; the pods filled indifferently, and fell a prey to mildew.

*Veitch's Perfection* was better than Premier, Best of All, Mammoth Dwarf Marrow (*Jersey Hero*), and G. F. Wilson, which are all of the same type. It was very good, though all these named must be included in that category in a favourable season.

*Dr. Maclean* was superior in productiveness to any other grown this year. It was sown at the same time, but proved a little later than *Dr. Hogg*. It was of excellent quality, and must take a foremost place as a market kind, being probably the best of the Peas of medium height for general purposes. Its productiveness is equal to that of *Fillbasket*, whilst its quality is superior, yet in this respect is not equal to some others.

*Culverwell's Prolific Marrow* withstood the hot weather grandly, giving an abundance of pods well filled with large Peas of superior quality; in that respect I should say it is unequalled, except by *Connoisseur*, which I consider is the best-flavoured Pea in cultivation and the most continuous bearer.

*Ne Plus Ultra* and its dwarf form *Omega* have withstood the continued wet of September and of October well, and yet neither of them has been so good as usual. *Ne Plus Ultra* will, if the weather continue open, keep on bearing for some

time longer; but Omega, which was sown at the same time, is over. As a rule, tall-growing kinds last longer in season than the medium growers.

*Supplanter*, like many others, did not prove entitled to its name, and was not nearly so good as its parent, *Veitch's Perfection*, either in productiveness or quality. It was, however, earlier and had larger pods.

*The Shah* proved to be a very early white wrinkled Pea, extremely prolific and of superior quality. As an early kind for cropping and high quality I consider it excellent.

*Standard* was very prolific, with handsome well-filled pods of nine to eleven Peas in each of a good size and of a deep green colour. Its quality is of the first rank; it is a second early Pea of great promise.

*Marvel* grew very stiff, having very fine pods, well filled with large Peas of an exquisite flavour.

The three last succeeded one another in the order placed from a sowing made at the same time, and they will no doubt bear their mark, as have others of Mr. Laxton's raising.—G. ABBEY.

### SPIRÆA JAPONICA.

As a spring-flowering plant *Spiræa japonica* is well known for its graceful plume-like flowers rising from a bed of shining green foliage, itself a sufficient ornament; but its value as an autumn bloomer is not so fully recognised. At the present time no plant is more striking or more valued for conservatory decoration than this, its chaste flowers associating well with other plants, especially late-flowering *Geraniums* and small plants of *Fuchsias*.

*Spiræas* to flower at the present time should, after the spring blooming is over, be repotted in sandy loam, leaf soil, and a little well-decomposed manure; they may then be given some glass protection, and not, as is so often the case, placed out of doors in the snowy blast to ripen their growth. They should be placed in a position where they can fully develop and mature their growths. During this time they require unfailing supplies of water. Plants standing on a hard bottom and exposed to the sun can hardly have too much water. When settled weather is expected the plants must be taken out of doors, the pots plunged down to the rim in coal ashes, and still kept plentifully supplied with water. When the foliage shows signs of shrivelling give less water, but by no means withhold it altogether. By the beginning of September the plants will again commence growing; the supply of water must then be increased, varying it with weak doses of liquid manure. With good cultural attention plants in 7-inch pots will produce fresh healthy foliage surmounted with twelve to fourteen flower spikes, at a time of year when these charming flowers are not usually seen.—A. W., *Lincoln*.

### SEACOAST VEGETATION.

INJURY BY FROST TO THE POTATO CROP IN W. LANCASHIRE.

NEAR the western edge of the county of Lancashire, and but a very few miles south of the estuary of the Ribble, is a tract of low-lying land that has very likely at one period been covered by the sea, which seems to be still receding from the coast. This tract differs in many respects from the class of lands locally termed *moorlands*, as in its composition it presents fewer traces of decayed vegetable matter than is common with the peat moss, and its specific gravity is much greater. In fact I am not sure but this character of soil presents us with the best example of the prevailing erroneous phrase of designating a sandy soil as a light one, for, bulk for bulk, it is unquestionably one of the heaviest, if not the very heaviest soil we possess. The tract of land to which I refer is composed of a black sand nearly destitute of stones. Such soils no doubt are common on most coasts having a low-lying foreshore, as well as by the sides of tidal rivers near their junction with the ocean. The overflowing of the level space with salt water, and the deposit of sands as well as seaweed and other wreckage for a long period of years, in course of time raise it beyond the reach of tides. This soil is for certain crops eminently fertile, and in the district to which I have called attention it is of great depth, and has been long enough in cultivation to exhibit which crops suit it and which do not prosper so well.

Being, however, placed near the west coast, where the spray from the ocean frequently reaches a good way inland, timber trees of most kinds do not do well, Conifers especially refusing to prosper; but there are plenty of plants of humbler growth which do very well. Notably the Black Currant thrives and

produces finer crops of fruit than is met with in most places where the soil is of an opposite character. Gooseberries, too, are remarkably fine, with trees healthy and free from canker or moss. Strawberries also do well; and amongst vegetables the soil and district is pre-eminently noted for good Celery and Potatoes as well as Carrots and Lettuces.

Peach trees seem to thrive remarkably well; and although finer fruit and better crops of Apples are no doubt produced in districts where the soil is of a different kind, I have never witnessed cleaner and finer-grown trees, not a particle of moss or lichen of any kind being seen on them. This I believe to be due to the sea breezes and saline matter with which the atmosphere at times is charged. Pears in like manner were good, while Raspberries seemed merely to exist. In the flower garden I noticed that *Calceolarias* did not flourish; while, on the other hand, I do not think I ever saw the gold and bronze section of bedding *Geraniums* prosper so well, and many other popular bedding plants were equally at home. With regard to shrubs, *Rhododendrons* were growing remarkably well, but not so the Laurel, Box, and *Laurustinus*, and the *Aucubas* seemed hardly satisfied with their position.

Amongst agricultural crops Oats and Barley were more generally met with in a flourishing state than Wheat. There had been good crops of hay, and in this district the tendency of the soil to produce moss is so great that it is seldom a field laid down as meadow is allowed to remain longer than five or six years, when it is ploughed up, and undergoes a few years of tillage prior to being laid down in grass again.

But one of the most important of all crops in the neighbourhood is the Potato, of which whole fields of great extent are met with, and good crops are produced, and which were free from disease up to the middle of September when I last saw them. But lest our readers elsewhere should envy too much our brethren in the north-west, it is only right to tell them that whole fields embracing many thousands of acres of Potatoes were blackened by frost on the 25th of August, just at the time when the growth was in its most robust condition. A partial recovery took place, but when I saw them about a month afterwards the blackened appearances of the leaves were still visible at a distance. That the crop was injured there can be no question; and although such frosts are not common they are not unknown, they having occurred before about the same period. It is difficult to account for such a phenomenon. The lowness of the situation might have something to do with it, yet there are lower-lying lands around the coast, which are banked out from the water, not so liable as the district in question to suffer from untimely frosts. Possibly, however, some of those in the same or a more northerly latitude may be liable, as it is difficult to assign any reason for the locality here described being alone subject to such a misfortune. Let us hope such visitations as that of the past August are few and far between, and that the fashionable gardening so well carried out in the Botanic Garden and elsewhere in Southport may not receive such a severe check on an unexpected occasion as did the Potato fields a short distance from it.—J. ROBSON.

### OUR BORDER FLOWERS—SNAKEWEEDS.

SNAKEWEED, Knotweed, and other weeds of the *Polygonum* family, are among our neglected border flowers, for seldom do we meet with them in cultivation, and yet they are a very useful race of plants. To see *Polygonum viviparum* in all its beauty moist alpine pastures must be visited. The Teesdale district is one of the habitats where it may be seen in its glory. To see it in perfection the place should be visited during the month of July. It makes a good border plant, and is equally attractive as a pot plant. It requires good drainage, sandy loam, and full exposure. It is useful for exhibition purposes.

*Polygonum bistorta* is at home in moist, shady, or exposed places, and is a pretty plant in early summer. What a beautiful sight to see beds of *Polygonum amphibium* nestling along the banks of the quiet lake, and in many rivers too! *Polygonum vacciniifolium* is a charming evergreen rock plant, but is all the better for a little protection during the cutting winds of spring; its bright shining foliage and pretty rose-coloured flowers have a fine effect. It continues long in bloom; should have good drainage. Loam and sandy peat meet its requirements. *Polygonum sachalinense* (?) is a grand acquisition to the shrubby or large herbaceous border. Let it have room and a good depth of loam to luxuriate in, and it assumes a bush-like appearance when established. *Polygonum Brunonis*



is of dwarf evergreen habit, often throwing up its pretty rose-coloured spikes of flowers from early spring to late autumn. *Polygonum amplexicaule* should have a place in all shrubbery and large herbaceous borders; its fine foliage and pretty red flowers are a sufficient recommendation for it. There are several other kinds that are equally attractive and ought to be more frequently met with.

They will thrive in any moderately good garden soil, but are all the better for an admixture of sandy loam or decayed vegetable matter mixed with the soil, which should be broken up to the depth of 18 inches. They are increased by seed sown as soon as ripe, and by division in spring when growth has commenced.—*VERITAS.*

### PREPARING LARGE CONIFERS FOR REMOVAL.

A QUESTION from "AN OLD SUBSCRIBER" has suggested the following:—

Trees that have had their roots undisturbed for a long period of time cannot be removed with safety without previous preparation. With it and the exercise of ordinary care they may be transplanted with perfect success, and in the course of from three to five years they will be growing with as much freedom and vigour as if they had never been disturbed.

During the last four or five years I have annually prepared and removed several large trees of various species, and as the process has been attended with invariable success I cannot do better than describe it. As soon as possible after the growth of the current year is matured and the tree is at rest, the whole of its roots are cut asunder at a certain distance from its stem in proportion to its size, say from 2 to 4 feet. This is done by opening a trench all round it a foot wide and about 2 feet deep, the soil also being loosened beneath the ball, and roots which are found there being also cut through. The trench is then refilled with sound and rather rich soil, the tree secured from damage by wind by having three or four wire stays fastened to its stem, and to stout pegs driven into the ground, and the work of preparation is finished. In the following November, or about a year after the cutting of the roots, a sloping trench is made down to and under the bottom of the ball of earth sufficiently wide for a trolley—really a platform of thick planks upon low broad wheels—to be run under the ball, from the sides of which the soil outside the original trench is then removed, causing the tree to drop gently down upon the trolley, to which horses are then attached and the tree drawn to its new station, planted and made fast with wire stays as before.

It may be well to explain why trees are so treated. When the roots of a large tree are cut off so near to the stem, as they always must be in order to facilitate its removal, it is deprived of almost all its rootlets or feeders by which it obtains nourishment from the soil. The shock to its system is obviously a severe one, so much so that to remove it then would most likely cause it to die. By putting rich soil about the stumps of the roots we induce a rapid and abundant formation of rootlets, so that the tree forms healthy foliage in the following season, although it makes little if any growth in the branches. When the tree is placed on the trolley for removal its ball is a pleasant sight, for it is bristling with rootlets, every one of which is preserved intact with most jealous care; and thus, although there is no appreciable growth for a year or two, yet we know that the tree is sound, that its roots are at work, and that in due course vigorous growth will follow.—*EDWARD LUCKHURST.*

### THE BEST ROSES.

MANY years ago I had a long conversation on Roses with a Cambridge don, and having answered many questions I put one, "Who are the best men in your university?" The reply was, "Ah, that depends upon what you want them for."

I have often thought since that in discussing the merits of Roses, whether in conversation or in print, this fundamental question is often lost sight of. My visitor continued, "One is great in classics, another in mathematics, a third in history, a fourth in physics, a fifth in theology, and so on, and even beyond this one is great in some particular division of these branches of learning and some in another."

Now, it seems to me that it is much the same with Roses, and when I am asked, Which are the best Roses? I reply, It depends upon what you want them for. There are Roses for exhibition, Roses for garden decoration, Roses for cutting for

table decoration, Roses for light dry soils, Roses for heavy moist soils, Roses for wet climates, Roses for dry climates, and so on; and anyone making a selection without knowing the special conditions under which the Roses are to be grown, and the purposes for which they are wanted, is likely to lead those who are seeking information very far astray.

Further, some Roses bloom early, some in mid-season and all at once, others are continually putting forth a few flowers for a lengthened period, and others, again, bloom finely late in the year. These latter have always possessed great charms for me, and I have consequently preserved and cultivated such assiduously. How delightful, when all the summer-flowering plants are spoilt by the frost, to find in one's garden red, purple, white, and yellow Roses. How sweet they are, and almost as fine as in summer!

In confirmation of the assertion that there are such, I transmit you a bouquet. Although I would be cautious in saying that they are the best, I am prepared to say that they are among the best of the very late autumn-flowering kinds. They were cut this morning (October 24th), and in fine seasons I have often cut flowers nearly equal in size and symmetry, and superior in colour, a month later. Here are their names:—

*Hybrid Perpetuals*.—Marquise de Castellane, Countess of Oxford, Madame C. Crapelle, La Reine, Monsieur Noman, Marie Baumann, Dupuy Jamain, Madame Victor Verdier, Madame Caillat, François Fontaine, and Princess Beatrice.

*Tees*.—Madame de St. Joseph, Gloire de Dijon, Madame Tride, Souvenir d'un Ami, and Madame Falcot.

*Bourbons*.—Comtesse de Rocquigny, and Souvenir de la Malmaison.

In addition to these I have three China Roses—Cramoie Supérieure (crimson), Fabvier (crimson), and Mrs. Bosanquet (blush), covered with masses of buds and flowers. These latter are of course out of court as exhibition Roses, and hardly fitted for table decoration, but for the garden nothing can be more effective, nothing more lovely. What a deal they lose who go in for a limited number of varieties, especially where a garden is of large size; it is like living on beef and mutton only.—*WILLIAM PAUL, Paul's Nurseries, Waltham Cross.*

[The Roses received were superior blooms, and sustain all that Mr. Paul has said of them as being "sweet and almost as fine as in summer."—*EDS.*]

### THE ROSE ELECTION.

I HAVE already on the spur of the moment said a few words in reply to "WYLD SAVAGE," but often words, even when answered, have the power of leaving a mark behind; so have they in the present case. "WYLD SAVAGE" administered some advice without assisting me to follow it. He said, "What Mr. Hinton should aim at is securing the opinion of the leading nurserymen and those amateurs alone who have distinguished themselves at the London or large provincial shows." Now, as some answer to this, out of the forty-seven electors I have ventured to select nine from each section as persons thoroughly qualified to elect the best Roses. They are names that have appeared in the prize lists either of the metropolitan or large provincial Rose shows, with the exception, so far as I know, of Mr. Rumsey; but his very long connection with the Paul family, as foreman I believe, must make him fully qualified to give an opinion, and I herewith present our readers with another list selected by these eighteen voters. The voters I have selected are the following—viz., Revs. C. P. Peach, Dombrain, J. B. Camm, and A. Cheales; Messrs. Beachey, Laxton, Scott, Wootton, and Captain Christy among amateurs; and amongst nurserymen Messrs. Cranston, Curtis, Cant, Davison, G. Paul, G. Prince, Rumsey, Turner, and Walters. There are perhaps several others who have equal right to be considered successful exhibitors, and I must apologise to them for omitting them. The names above, it seems to me, ought to carry weight. Does the result of the scrutiny of these votes proclaim the election list as already declared, to be "a mockery, delusion, and snare?" Does the list I append prove the correctness of "WYLD SAVAGE'S" anathema? Does it stamp the election as already given as "a miserable, misleading, unrighteous, abominable election?" I think the reply to all these questions is distinctly in the negative.

Supposing a beginner looking at the previous list decided on investing in the first fifty, how far does this fresh list below prove that he has been misled and that he is investing in inferior sorts? Tried by this fresh test what alterations do we find? Why, the very same Roses are in the fifty with the

exception of three! Abel Grand, No. 47, Madame Willermoz, No. 48, and Annie Wood, No. 50, are replaced by Annie Laxton, Cheesbunt Hybrid, and Mons. Noman. I allow that a great many of the others are in different positions, but a first or second-class vote more or less makes a vast change in the position of the list, as "WYLD SAVAGE" would soon find if he altered half a dozen. The fact remains that the best fifty are very nearly the same. The list runs thus—

		A	B	C	A*B*C*	Total		
1	Maréchal Niel	9	0	9	9	0	9	18
to 2	Alfred Colomb	9	0	9	9	0	9	18
3	Marie Baumann	9	0	9	9	0	9	18
4	Baronne de Rothschild	9	0	9	9	0	9	18
5	Charles Lefebvre	9	0	9	8	1	9	18
6	Etienne Levet	8	1	9	8	1	9	18
7	La France	8	1	9	7	2	9	18
8	Louis Van Houtte	7	2	9	7	2	9	18
9	Marquise de Castellane	8	1	9	6	2	8	17
10	Duke of Edinburgh	5	3	8	4	5	9	17
11	Madame Victor Verdier	3	5	8	5	4	9	17
12	Comtesse d'Oxford	4	5	9	3	5	8	17
13	John Hopper	3	5	8	3	5	8	16
14	Devoniensis	4	4	8	5	2	7	15
15	Catherine Mermet	4	3	7	4	4	8	15
16	Sénateur Vaisse	2	6	8	3	4	7	15
17	Xavier Olibo	2	5	7	2	6	8	15
18	François Michelin	5	1	6	7	1	8	14
19	Horace Vernet	2	5	7	4	3	7	14
20	Mdlle. Eugénie Verdier	3	6	8	3	3	6	14
21	Mdlle. Marie Bady	3	5	7	1	6	7	14
22	Gloire de Dijon	3	3	6	5	2	7	13
23	Dr. Andry	5	8	8	1	4	5	13
Eq. 24	Marguerite de St. Amand	2	3	5	4	4	8	13
25	Pierre Notting	4	3	7	1	5	6	13
26	Emilie Haussburg	3	4	7	2	4	6	13
27	Duke of Wellington	2	6	8	1	4	5	13
28	Fisher Holmes	2	4	6	0	7	7	13
29	Souvenir d'un Ami	4	4	8	2	2	4	12
Eq. 30	Prince Camille de Rohan	1	5	6	3	3	6	12
31	Souvenir d'Elise	2	5	7	2	8	5	12
32	Camille Bernardin	2	5	7	2	3	5	12
33	Madame Lacharme	1	5	6	2	4	6	12
34	Ferdinand de Lesseps	4	1	5	4	2	6	11
35	Dupuy Jamain	6	1	7	0	4	4	11
36	Marie Van Houtte	2	2	4	2	5	7	11
37	Victor Verdier	1	7	8	0	3	3	11
38	Captaine Christy	1	3	4	0	6	6	10
39	Mdlle. Marie Gointet	0	6	6	0	4	4	10
Eq. 40	Reynolds Hole	1	4	5	2	2	4	9
41	Comtesse de Serenyi	2	1	3	1	5	6	9
42	Madame C. Wood	0	4	4	2	3	5	9
43	Niphotos	1	3	4	1	4	5	9
44	Annie Laxton	1	4	5	0	4	4	9
45	Edward Morren	2	2	4	1	3	4	8
46	Mdlle. Marie Finger	0	4	4	2	2	4	8
47	Maurice Bernardin	0	4	4	0	4	4	8
48	Cheeshunt Hybrid	3	2	5	1	1	2	7
49	Souvenir de la Malmaison	0	1	1	3	3	6	7
50	Monsieur Noman	0	1	1	2	3	6	7
Eq. 51	Abel Grand	0	4	4	1	2	3	7
52	Duchesse de Caylus	1	3	4	0	3	3	7
53	Annie Wood	0	5	5	0	2	2	7
54	Madame Willermoz	0	2	2	0	4	4	6
Eq. 55	Paul Neron	0	3	3	0	3	8	6
56	Star of Waltham	0	3	3	0	3	3	6

It is very certain that in this list François Michelin, for instance, is much lower, though tried by first-class votes it would revert to its old place; but the Tea Roses, especially Catherine Mermet and Marie Van Houtte, have risen considerably; but this is to be expected, for more decidedly exhibiting Rose-growers would sacrifice something to grow these Roses, willingly taking the extra care that they require. Star of Waltham takes a great leap, but with such electors the good new varieties would probably obtain notice. I make this further remark, that Paul Neron has completely outstripped his companion Belle Lyonnaise, which polls only three votes, in spite of "WYLD SAVAGE's" praise, whilst Beauty of Waltham only reaches the same number.

If able to undertake the election another year I propose to make it more decidedly an "exhibiting" election, as this may be useful, but the present election never professed to be that. —JOSEPH HINTON, Warminster.

WHATEVER may be my opinion as to the result of the election, there can be but one as to the feeling which all rosarians have towards you (Mr. Hinton), and that is gratitude. Deeply grateful are we all to you for the great trouble you have taken in conducting this election, and only the excitement consequent upon reading the results caused even a "WYLD SAVAGE" of the woods to forget to thank you.

Although I do not know much about the Wiltshire spring breezes I am intimately acquainted with sou'-westers from the

English Channel, which are, I should say, much like those from the downs near Warminster. Certainly I live in a very wild country indeed, and one the soil of which is a byword—an apology indeed for soil, so that I do not think there is much difference in my climate and my friend Mr. Hinton's, for I know the returning officer very well, and am surprised he does not recognise me.

Yet, although I grieve to think I have in any way hurt Mr. Hinton's feelings, I must stick to my opinion as to the returns.

Mr. Hinton speaks of that gem of the purest water Marie Van Houtte as if it were a sweet pretty little Banksian or Rose de Meaux. Here, and at Exeter, it is often as large as at all events Mr. Hinton's pet the "Gloire," and often it may be placed in the back row of an exhibition stand, and if that does not make it a grand Rose what the word grand means is unknown to—A WYLD SAVAGE.

I HAVE had a very good season under the circumstances, but I have taken Mr. Baker's advice and have grubbed-up 450 plants that have done good service, and replaced them at the price of £2 and £2 5s. per hundred. I see occasionally objections to my statements in respect of Roses, and I am sure that I do not object to them. I know that circumstances, such as soil, aspect, and culture are so different that we cannot all agree; but I must protest against an objector to my statements forgetting that I am a gentleman. I trust I have never written a discourteous article, nor expressed myself in respect of other people's articles in a way that, upon maturer reflection, would cause me deep pain.

I thank Mr. Hinton (though I did not join the election, for the reasons given to him privately) for his most able account of the election. I thought the placing of Comtesse de Chabrilant, confessedly one of the most beautiful and best-formed Roses, so low as 81, with only eight votes and no first-class votes among the nurserymen, as one of the mysteries of elections. I am sure I only express the mind of the whole Rose world when I say how much we all owe to Mr. Hinton for his able and valuable labours.

P.S.—Baronne Prevost was raised by Desprez, and not by Laffay, as stated by me.—W. F. RADCLIFFE.

EVEN a worm will turn, even "chaff" will fly up occasionally, and I must say a word on a "WYLD SAVAGE's" letter. Poor, dear, old Die-John, to think of anyone calling him an impostor, the "greatest impostor out," and this to be all the thanks which that public benefactor, Mr. Hinton, gets for his most laborious and admirably executed election work. If this letter leads to more of "the giants" sending lists on another occasion, so far good will have come of it. It is greatly to be desired that we should have the opinion of more of those who are best qualified to form one. I venture to think also that the list would be made more interesting if the Roses were classed in the estimated order of merit, and not some of them alphabetically. But I took up my pen through amazement at the disrespect such an authority as "WYLD SAVAGE" (if I interpret the "Wyld" rightly) should have shown to the estimable parent of Madame Berard and Belle Lyonnaise. Certainly Gloire de Dijon is seldom seen in the "box," because seldom carefully cultivated; but, as somebody said in our Journal, if restricted to one Rose I would say, Give me good old "Glory." He is good all round, and all the year round. The following fact respecting him speaks for itself. At the Reigate Show in 1874 (and Reigate can grow Roses) the silver challenge cup for the best twelve Roses was taken by a box of Gloire de Dijon, while also one of the Roses in the very same box was pronounced "the best Rose in the Show," Messrs. G. Paul, Mitchell, and Francis being judges.—A. C., Brockham.

LET me add a few words to Mr. Hinton's reply to "WYLD SAVAGE" with regard to the Rose election. Mr. Hinton is quite right in saying that it was never intended only to elicit the opinions of professional Rose-growers or of amateur exhibitors as to the best exhibition Roses. My idea with regard to the election was that each person should say what Roses, as a general rule, did best with him in his own garden under his own supervision, and which flowered freely, holding always as a standard that the blooms should be of good shape and size—not rough, flat, or small. If I lived in the sunny south and had a warm border with plenty of rich soil and farmyard manure, and means of protection in the winter, no doubt I should put Marie Van Houtte and Souvenir d'Elise, and perhaps La Boule d'Or, into the first twenty; or had I been

thinking only of exhibition blooms, such as I had noted when judging, I should not have put Dupuy Jamain, or Antoine Ducher, or Comtesse de Chabillant, or even Fisher Holmes, into my list.

I think (but am not quite sure) that "WYLD SAVAGE" was at Birmingham when Dupuy Jamain carried off the prize (at the time when the Royal Horticultural Society held their show at Birmingham) for the best twelve blooms of any one kind, and in my opinion as a judge I never saw twelve more beautiful Roses staged, glowing in colour, and excellent in shape and form. But then Dupuy Jamain will not stand a warm climate or thin soil, and it requires very close pruning and good management; and I fancy the warm climate of the south, and especially such a summer as we have had this year, would, as "WYLD SAVAGE" says, "give Dupuy Jamain as many petals as a Horse Daisy;" but I can assure him that with me there are few Roses that give better blooms, though if I had to exhibit I should be very careful not to put a fully-opened one into my stand on a hot morning in July. I quite endorse what he says about such Roses as Madame Chirard or Baron Chaurand; but then there are some persons who like small dark Roses; others who like good flat blooms, like Baronne Prévost, or Thomas Rivers, or Thyra Hammerick, &c. Others, again, cannot afford space of ground, or the cost of growing and trying all the best new Roses as they come out, so that many of the more recently introduced high-class Roses take some time before they come into a list such as the one which Mr. Hinton has with such time and trouble collected.

I think it would be quite worth while to select six amateurs and six nurserymen, accustomed to exhibit and grow Roses, to give a list of exhibition sorts. I would not choose merely judges, for many of the best judges of Roses cannot always afford to grow enough varieties or even enough of each variety to have every Rose practically under their own eyes; and I equally know many nurserymen who grow Roses in great quantities who are yet not qualified to judge a stand of seventy-two varieties. The best growers, in other words, are not always the best judges. If I might make the suggestion, I should like "WYLD SAVAGE," "Hercules," and the Rev. S. Reynolds Hole to select six amateurs and six nurserymen to give the lists, and I am inclined to think that at least thirty-six out of the fifty named in Mr. Hinton's election would still be placed in the fifty exhibition Roses.

With me Belle Lyonnaise is no better than her mother, and the "fat, fair, and forty" is quite as good as the blushing maiden. She has, perhaps, a more delicate shade of yellow; but though the old "Gloire" very often gives us rough flat Roses, what Rose is there, except, perhaps, La France, that one can often cut to put on one's drawing-room table? and early and late in the season the blooms are often perfect. I again aver that I do not believe Gloire de Dijon is a Tea, but a hybrid between a Tea and a Bourbon; and I should like to know other rosarians' opinions on the subject.

There are a great many exhibition Roses, as Duc de Rohan, Beauty of Waltham, Duke of Edinburgh, and others I could mention, that do not seem to thrive in cold climates. Nothing seems to me more capricious than the constitutions of some Roses. Many seem to deteriorate the more they are propagated and the further removed they are from the seedling. Roses which seem when first shown as recent introductions to promise well often fail to make their way in the Rose world. There are other sorts, again, which improve by constant cultivation, just as some kinds of Apples and Pears can be improved by grafting and re-grafting. I am confident, too, that the constitutions of some Roses have been impaired by constantly budding on standards planted in nursery rows—long, bare, dried-up stems with very few roots, and then the buds are taken again from these; when nurserymen want to increase a stock of Roses of any kind quickly they are not very particular as to buds.

I omitted this year in my list Duke of Edinburgh, because, though I have occasionally seen magnificent blooms, and beautiful in point of colour, it nearly always quarters, and for one good bloom I cut ten which are indifferent. There are some Roses, too, like Marquise de Mortemart and the old Madame Furtado, which are only good in some soils and occasional seasons. Madame Furtado I fear will soon be a "thing of the past." I see it disappearing from nurserymen's lists, and yet I have a lively recollection of a box of twelve blooms that I cut from the vicar of Cauntoun's garden and exhibited at Newark, and which I have hardly ever seen surpassed. I put Thomas Methven in my list this year because I have

had some wonderfully fine blooms this summer, with more substance of petal and more lasting than any Rose I almost ever cut. I have been obliged to discard Monsieur Noman, though there is no more beautiful pink Rose under glass or in fine weather; but the quality of the petal is so flimsy that the least rain or damp glues the buds up so that they cannot open. I fancy Monsieur Noman would do best on a south border, where it could have plenty of sun and air, and yet be protected from north and east winds.

Having entered on the subject of Roses I find I have wandered from my text, which was to back up Mr. Hinton against "WYLD SAVAGE;" not but that I have a certain degree of fellow feeling for the "Savage" if he thought the list was to be made only with reference to the exhibition table when he saw some of his favourite Teas degraded; and certainly in some of the lists (and as there are a great number I need not be personal) there is a wide variety of taste displayed—"Everyone to his own taste," as the old woman said when she kissed her donkey—and I am convinced that this list of Roses will help many persons to form their judgments as to the Roses best suited for their own gardens or in their own neighbourhood.—C. P. P.

### TROPEOLUM SPECIOSUM.

RELATIVE to the hardiness of *Tropeolum speciosum*, noticed by "A RAMBLER" in the Journal of the 5th inst., for upwards of twenty years I had grown it as an herbaceous plant, and as such have exhibited it at gardening competitions with success. So freely does it grow with me, that a narrow border along a wall, up which it climbs on trellises (cords do well for the purpose) and flowers profusely, is literally matted with rootlets. When once fairly established it is not easily destroyed; but few real florists I should think would care for parting with such a gem. The severest winters have never done the plants any injury, and if protected with a few Spruce branches the old shoots remain active during winter, and push forth flowers early in the season. From the month of May to November the rich scarlet flowers produced a blaze of beauty unequalled by any other climber. I have had it growing among shrubs, and the plants rambling over evergreen bushes have produced a brilliant effect among the green leaves. At present *Tropeolum speciosum* is in perfection, and one of my brightest floral ornaments.—THOMAS NICOL, Balgonie, Fifeshire.

### NURSERYMEN'S VOTES IN ELECTION OF ROSES.

MR. B. CANT, St. John Street Nursery, Colchester.

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Alfred Colomb            | 26. Elie Morel              |
| 2. Baronne de Rothschild    | 27. Emilie Hausburg         |
| 3. Charles Lefebvre         | 28. Fisher Holmes           |
| 4. Duke of Wellington       | 29. François Louvat         |
| 5. Ferdinand de Lesseps     | 30. Hippolyte Flandrin      |
| 6. François Michelon        | 31. John Hopper             |
| 7. Horace Vernet            | 32. La Duchesse de Morny    |
| 8. La France                | 33. Madame Hippolyte Jamain |
| 9. Louis Van Houtte         | 34. Madame Victor Verdier   |
| 10. Madame C. Wood          | 35. Maurice Bernardin       |
| 11. Marie Rady              | 36. Mlle. Marie Cointet     |
| 12. Marie Baumann           | 37. Mlle. Marie Finger      |
| 13. Marguerite de St. Amand | 38. Pierre Notting          |
| 14. Marquise de Castellane  | 39. Prince Arthur           |
| 15. Monsieur Noman          | 40. Prince Camille de Rohan |
| 16. Etienne Levet           | 41. Princess Beatrice       |
| 17. Ville de Lyon           | 42. Sophie Coguerel         |
| 18. Devoniensis             | 43. Thomas Mills            |
| 19. Maréchal Niel           | 44. Xavier Olibo            |
| 20. Souvenir d'Elise        | 45. Catherine Mermet        |
| 21. Comtesse d'Oxford       | 46. Marie Van Houtte        |
| 22. Duchesse de Caylus      | 47. Madame Willermoz        |
| 23. Duke of Edinburgh       | 48. Niphotos                |
| 24. Dr. Andry               | 49. Rubens                  |
| 25. Dupuy Jamain            | 50. Souvenir d'un Ami       |

MR. J. CRANSTON, King's Acre, Hereford.

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Alfred Colomb            | 14. Etienne Levet           |
| 2. Baronne de Rothschild    | 15. Prince Camille de Rohan |
| 3. Charles Lefebvre         | 16. Sénateur Vaisse         |
| 4. Comtesse d'Oxford        | 17. Sir Garnet Wolseley     |
| 5. Duke of Edinburgh        | 18. Catherine Mermet        |
| 6. Exposition de Brie       | 19. Devoniensis             |
| 7. Horace Vernet            | 20. Maréchal Niel           |
| 8. La France                |                             |
| 9. Louis Van Houtte         | 21. Annie Wood              |
| 10. Madame G. Schwartz      | 22. Annie Laxton            |
| 11. Marguerite de St. Amand | 23. Capitaine Christy       |
| 12. Marie Baumann           | 24. Comtesse de Chabillant  |
| 13. Marquise de Castellane  | 25. Comtesse de Serenly     |

26. Duchesse de Caylus
27. Dupuy Jamain
28. Edward Morren
29. Emilie Hausburg
30. Fisher Holmes
31. John Hopper
32. Jules Margottin
33. Duchesse de Morny
34. Madame C. Crapelet
35. Madame C. Wood
36. Madame Vidot
37. Madame Lacharme
38. Madame Victor Verdier

Mr. Corp, High Street, Oxford.

1. Alfred Colomb
2. Baronne de Rothschild
3. Madame Victor Verdier
4. Charles Lefebvre
5. Maréchal Niel
6. Mons. E. Y. Teas
7. Catherine Mermat
8. Devienne Lamy
9. Comtesse de Serenyi
10. Dr. Andry
11. Etienne Levat
12. Hippolyte Jamain
13. La France
14. Louis Van Houtte
15. Mlle. Marie Rady
16. Marie Baumann
17. Marquise de Castellane
18. Pierre Notting
19. Mlle. Eugénie Verdier
20. Sénateur Vaisse

21. Annie Wood
22. Beauty of Waltham
23. Camille Bernardin
24. Capitaine Christy
25. Comtesse d'Oxford

Mr. R. CRAGG, Car Colston, Bingham, Notts.

1. Alfred Colomb
2. Auguste Rigotard
3. Baronne de Rothschild
4. Camille Bernardin
5. Capitaine Christy
6. Charles Lefebvre
7. Dr. Andry
8. Emilie Hausburg
9. Etienne Levat
10. François Michelin
11. Horace Vernet
12. La France
13. Louis Van Houtte
14. Madame Victor Verdier
15. Marguerite de St. Amand
16. Marie Baumann
17. Marquise de Castellane
18. Sénateur Vaisse
19. Maréchal Niel
20. Souvenir de Spa

21. Annie Wood
22. Baron de Bonstetten
23. Comtesse d'Oxford
24. Comtesse de Serenyi
25. Duc de Rohan

Mr. HENRY CURTIS, Torquay.

1. Maréchal Niel
2. Devoniensis
3. Baronne de Rothschild
4. Charles Lefebvre
5. Alfred Colomb
6. Marie Baumann
7. Camille Bernardin
8. Marquise de Castellane
9. La France
10. Louis Van Houtte
11. Ferdinand de Lesseps
12. François Michelin
13. Marie Van Houtte
14. Catherine Mermat
15. Souvenir d'un Ami
16. Duke of Edinburgh
17. Comtesse d'Oxford
18. Pierre Notting
19. Mlle. Marie Finger
20. Etienne Levat

21. Souvenir d'Elise
22. Madame Victor Verdier
23. Duke of Wellington
24. Lælia
25. Mlle. Eugénie Verdier

Mr. G. DAVISON, White Cross Nurseries, Hereford.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. François Michelin
5. Horace Vernet
6. La France
7. Louis Van Houtte

39. Mlle. Marie Cointet
40. Mlle. Marie Rady
41. Maurice Bernardin
42. Marquise de Gibot
43. Mons. Noman
44. Pierre Notting
45. Reynolds Hole
46. Souvenir de la Malmaison
47. Xavier Olibo
48. Gloire de Dijon
49. Marie Van Houtte
50. Souvenir d'Elise

26. Duke of Edinburgh
27. Duke of Wellington
28. Edward Morren
29. Emilie Hausburg
30. Ferdinand de Lesseps
31. François Michelin
32. Horace Vernet
33. Ingenieur Madèle
34. J. S. Mill
35. John Hopper
36. Marguerite de St. Amand
37. Madame C. Wood
38. Mlle. Thérèse Levat
39. Mlle. Marie Cointet
40. Marquise de Ligneris
41. Prince Camille de Rohan
42. Reynolds Hole
43. Victor Verdier
44. Xavier Olibo
45. Anna Olivier
46. Belle Lyonnaise
47. Devoniensis
48. Marie Van Houtte
49. Perle des Jardins
50. Souvenir de Paul Neron

26. Duke of Edinburgh
27. Dupuy Jamain
28. Edward Morren
29. Madame Bernutz
30. Exposition de Brie
31. Ferdinand de Lesseps
32. Fisher Holmes
33. Madame Auguste Verdier
34. Madame Chas. Crapelet
35. Madame Lacharme
36. Mlle. Thérèse Levat
37. Mlle. Eugénie Verdier
38. Mlle. Marie Rady
39. Maurice Bernardin
40. Paul Neron
41. Pierre Notting
42. Princess Beatrice
43. Reine du Midi
44. Reynolds Hole
45. Velours Pourpre
46. Victor Verdier
47. Xavier Olibo
48. Souvenir de la Malmaison
49. Devoniensis
50. Gloire de Dijon

26. Dr. Andry
27. John Hopper
28. Marguerite de St. Amand
29. Mlle. Marie Rady
30. Victor Verdier
31. Madame C. Wood
32. Emilie Hausburg
33. Richard Wallace
34. Dupuy Jamain
35. Centifolia Rosea
36. Gloire de Dijon
37. Alba Rosea
38. Letty Coles
39. Marie Guillot
40. Niphotos
41. Madame Willermoz
42. Souper et Notting
43. Capitaine Christy
44. Princess Beatrice
45. Baron de Bonstetten
46. Horace Vernet
47. Comtesse de Nadaillac
48. Xavier Olibo
49. Star of Waltham
50. Bessie Johnson

8. Madame Charles Wood
9. Marguerite de St. Amand
10. Marie Baumann
11. Etienne Levat
12. Monsieur Noman
13. Princess Beatrice
14. Reynolds Hole

15. Devoniensis
16. Gloire de Dijon
17. Marie Van Houtte
18. Niphotos
19. Souvenir d'un Ami
20. Maréchal Niel
21. Annie Laxton
22. Claude Levat
23. Comtesse d'Oxford
24. Comtesse de Serenyi
25. Duke of Wellington
26. Duchesse de Caylus
27. Duke of Edinburgh
28. Dupuy Jamain
29. Edward Morren
30. Emilie Hausburg
31. Fisher Holmes
32. J. S. Mill

EWING & Co., Newmarket Road, Eaton, near Norwich.

1. Alfred Colomb
2. Baronne de Rothschild
3. Capitaine Christy
4. Duke of Edinburgh
5. Emilie Hausburg
6. Etienne Levat
7. François Michelin
8. John Hopper
9. La France
10. Louis Van Houtte
11. Mlle. Eugénie Verdier
12. Marie Baumann
13. Catherine Mermat
14. Devoniensis
15. Gloire de Dijon
16. Marie Guillot
17. Niphotos
18. Perle des Jardins
19. Souvenir d'Elise
20. Maréchal Niel

21. Auguste Neumann
22. Boule de Neige
23. Charles Lefebvre
24. Comtesse de Serenyi
25. Comtesse de Chabillant

Mr. JOHN FRASER, Lea Bridge Road Nurseries, Leyton, E.

1. Alfred Colomb
2. Baronne de Rothschild
3. Capitaine Christy
4. Charles Lefebvre
5. Comtesse d'Oxford
6. Duchess of Edinburgh
7. John Hopper
8. La France
9. Louis Van Houtte
10. Madame Victor Verdier
11. Mlle. Eugénie Verdier
12. Mlle. Marie Cointet
13. Marie Baumann
14. Marquise de Castellane
15. Miss Hassard
16. Etienne Levat
17. François Michelin
18. Mons. E. Y. Teas
19. Maréchal Niel
20. Perle des Jardins

21. Antoine Mouton
22. Comtesse de Serenyi
23. Dr. Andry
24. Duc de Rohan
25. Edward Morren

Mr. HARRISON, North of England Nurseries, Darlington.

1. Alfred Colomb
2. Charles Lefebvre
3. Comtesse de Serenyi
4. Catherine Mermat
5. Dr. Andry
6. Duke of Edinburgh
7. Devoniensis
8. Etienne Levat
9. Ferdinand de Lesseps
10. François Michelin
11. Horace Vernet
12. La France
13. Louis Van Houtte
14. Mlle. Marie Finger
15. Madame Victor Verdier
16. Maréchal Niel
17. Miss Hassard
18. Sir Garnet Wolesley
19. Star of Waltham
20. Marie Baumann

21. Annie Laxton
22. Antoine Mouton
23. Camille Bernardin
24. Capitaine Christy
25. Caroline de Sansal

33. Lord Macaulay
34. Marie Rady
35. Madame Charles Crapelet
36. Madame G. Schwartz
37. Madame Victor Verdier
38. Mlle. Eugénie Verdier
39. Miss Hassard
40. Pierre Notting
41. Prince Camille de Rohan
42. Rev. J. B. Camm
43. Sénateur Vaisse
44. Sir Garnet Wolesley
45. Xavier Olibo
46. Catherine Mermat
47. Comtesse de Nadaillac
48. Perle des Jardins
49. Souvenir de Paul Neron
50. Marquise de Castellane

26. Comtesse d'Oxford
27. Dr. Andry
28. Edward Morren
29. Elise Boëlle
30. Ferdinand de Lesseps
31. Horace Vernet
32. Lord Clyde
33. Mlle. Marie Finger
34. Madame Victor Verdier
35. Maréchal Vaillant
36. Marquise de Castellane
37. May Turner
38. Miss Hassard
39. Paul Neron
40. Prince Camille de Rohan
41. Sénateur Vaisse
42. Sophie Coguerel
43. Reynolds Hole
44. Victor Verdier
45. Xavier Olibo
46. Cheshunt Hybrid
47. L'Enfant Trouvé
48. Mlle. Marie Armand
49. Madame Margottin
50. Celine Forestier

26. Emilie Hausburg
27. Fisher Holmes
28. Hippolyte Jamain
29. Horace Vernet
30. L'Esperance
31. Lyonnaise
32. Madame Lacharme
33. Mlle. Marie Finger
34. Marguerite de St. Amand
35. Paul Neron
36. Rev. J. B. Camm
37. Prince Camille de Rohan
38. Princess Beatrice
39. Sénateur Vaisse
40. Reynolds Hole
41. Star of Waltham
42. Victor Verdier
43. Xavier Olibo
44. Souvenir de la Malmaison
45. Catherine Mermat
46. Souper et Notting
47. Cheshunt Hybrid
48. Devoniensis
49. Enfant de Lyon
50. Madame Falcot

26. Dupuy Jamain
27. Duchess of Edinburgh
28. Duchesse de Caylus
29. Elise Boëlle
30. Exposition de Brie
31. Gloire de Dijon
32. Hippolyte Jamain
33. John Stuart Mill
34. Le Havre
35. Mlle. Eugénie Verdier
36. Monsieur E. Y. Teas
37. Maurice Bernardin
38. Mlle. Marie Rady
39. Marquise de Castellane
40. Madame Charles Wood
41. Princess Beatrice
42. Perle des Jardins
43. Prince Camille de Rohan
44. Rev. J. B. M. Camm
45. Reynolds Hole
46. Royal Standard
47. Souvenir d'un Ami
48. Souvenir d'Elise
49. Villaret de Joyeuse
50. Xavier Olibo

CRAWFORD'S EARLY PEACH.—Mr. Burnett of The Deepdene, Dorking, writes to us as follows on Crawford's Early Peach:—



"I have had a rather longer experience of this Peach than your correspondent Mr. Taylor, and though with me it has been satisfactory as a good cropper, and generally swelling out its fruit well, I could not recommend it to anyone whose wall space is limited, but if room can be spared for a tree it is worth its room for the sake of a few splendid-coloured fruit, though but second-rate in flavour."

### JUDGING VEGETABLES.

THERE can be no harm in eliciting the opinions of correspondents as to the relative value one vegetable may be supposed to have over another in collections; but I am afraid after all, judges will act on their own individual opinions, and award the prizes to the collections having the greatest general merit, irrespective of what they are composed. In some instances it may be right to give a point more to Potatoes than Tomatoes, but in the majority of instances it is likely to be wrong. To assume, as Mr. Fairweather does, that Potatoes should, whatever their merit, have priority of place in collections because these are of "the utmost importance and value to all," is about as weak an argument as could be produced. As well allow a dish of culinary Apples to usurp the place of a Pine Apple, or a dish of Muscat Grapes, in a collection of fruits.

I believe I was "one of the Judges" at the "local show" alluded to by Mr. Fairweather, where I and my fellow Judges had small difficulty in determining betwixt the rival collections, despite the circumstance that the first and second-prize collections contained Tomatoes, Vegetable Marrows, and Cucumbers, which Mr. Fairweather is pleased to state "were of no great merit," though in the opinions of the three Judges they were considered of fair average merit. The commended lot, which according to Mr. Fairweather contained such "superior examples" of Potatoes, Peas, and Cauliflowers, belonged to himself, which circumstance may account for his surprise at the Judges arriving "at such a conclusion."—JAS. ADAMSON, *The Gardens, Brynkindalt.*

### EARLY APPLES—ROSES—UMBRELLA PINE.

I, as well as many others, have been perusing the interesting discussion in your pages about early Apples. I am somewhat surprised that more prominence has not been given to that very excellent early dessert Apple called the Arbroath Pippin, a synonym of which is the Oslin Apple. I have to endorse what one of your correspondents says about the Quarrenden, which is described by everyone else as being highly ornamental and of delicious flavour. Now, I quite agree in thinking its appearance is handsome; but here the fruit is uneatable excepting when cooked, and by no means first-rate when forming part of a tart or pudding. I should like to hear more about the Domino Apple. I have found in an old fruit manual an Apple called Dominiska, but the latter is not an early Apple, nor does it otherwise answer to the description of Domino.

I have had some magnificent Peaches of Crawford's Early this year, and as good as they were handsome, so that I can fully corroborate the account given in your journal.

Among the Roses I see no mention of a very old-fashioned one called Pierre de St. Cyr, one I should not like to be without. Its size is not large, but it is well formed, flowers in large clusters, will grow in almost any soil; its colour is lovely, it is deliciously perfumed, and blooms later I believe than any other Rose.

Will you kindly tell me what is the name of the Pine which we see in the neighbourhood of Rome and Naples, with a tall stem and spreading top? I have heard it called the Umbrella Pine, but no doubt it has some specific botanical name. Would that Pine stand an English winter?—C. R.

[*Sciadopytis verticillata* is the Umbrella or Parasol Pine. It is a native of Japan, and hardy.—Eps.]

### MARTYNIA DIANDRA.

SOMETHING more than ordinary care is required to cultivate successfully the family of plants our figure represents. These beautiful plants are met with in various parts of the world, and many years have passed since some of them were introduced to our notice. *Martynia diandra* is said to be from new Spain, others are from Mexico, the Cape, and America, all requiring the same treatment, and are what are termed stove

annuals. The seed requires sowing in early spring in well-drained pots, in soil composed of sandy loam and peat in equal quantities, with a little leaf soil, charcoal dust, and silver sand. The soil in the seed pots should be made moderately firm before sowing, covering the seed lightly, pressing it down, and plunging the pots in a brisk bottom heat. As soon as the plants make their appearance they should be gradually exposed to the atmosphere of the house, taking care at all times to shield them from cold draughts, which are very injurious to them. When large enough to handle they should be potted-off into small pots, singly or two or three in a pot as may be thought desirable. They should be plunged after potting in

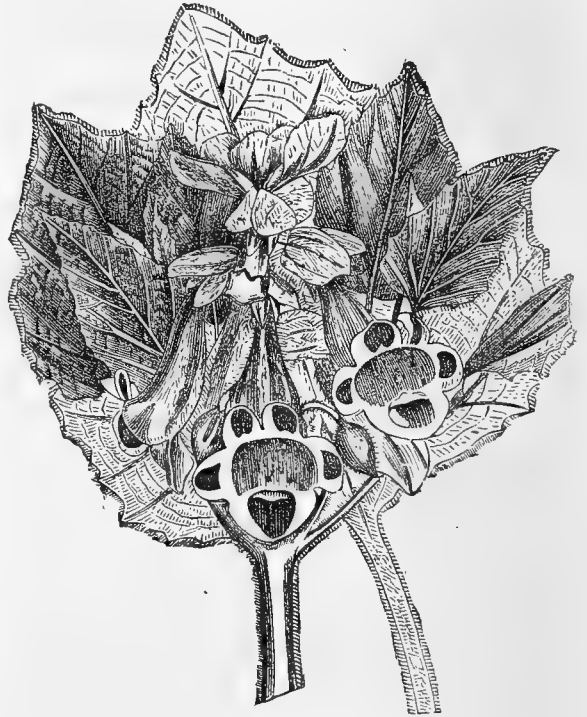


Fig. 52.—*Martynia diandra*.

bottom heat, and potted-on as they may require while progressing. They require a humid atmosphere to hold in check red spider and thrips. When the flowers appear the plants may be hardened-off and placed in a cool stove or warm greenhouse, and they will repay any amount of labour bestowed upon them.—N.

### TOMATOES DISEASED—PACKING FRUIT.

I HAVE observed in two or three late numbers of the Journal communications relative to the appearance of the Potato disease among Tomatoes. The experience of your correspondents varied. It may, therefore, be useful to give my experience also.

For several years I have grown Tomatoes in a cool vinery, and most prolific have they proved when so grown. I am satisfied that one year I gathered a bushel of fine fruit from each plant. The plants were allowed to grow without stopping, and on an average covered a space about 6 feet by 8. Last year (1875) I raised but two plants, judging they would suffice to supply my table, and doubting whether too many Tomatoes did not rob the vines. But in the autumn, I think in September, both the plants and their fruit suddenly turned black, and both my gardener and myself recognised the Potato disease, or what exactly resembled it. The plants were destroyed, but much of the fruit ripened on the shelves. Now comes the point of my story. There were no Potatoes in the neighbourhood; I had grown some of the early kinds, but they had long been dug up and eaten, therefore the Tomatoes had not taken the disease by infection. Another of your correspondents is at fault in supposing that growing Tomatoes under glass would effectually protect them.

While I have my pen in hand I should like to give my fellow gardeners a wrinkle touching the packing of fruit. I had been

at a loss, and found cotton wool answer only moderately well. Wishing this year to send some fine Peaches by rail to a distance, it occurred to me that the spray of Asparagus might answer my purpose. It did answer thoroughly, and I have since sent Figs and Grapes by rail packed in the same way. The recipient reported the Figs as fresh as if just gathered, and the Grapes without the loss of a particle of bloom. The spray of the Asparagus is of a dry nature and elastic, keeping fresh, moreover, for some time.—C. A. B.

THE question of diseased Tomatoes raised by Mr. Boyle, arising from Mr. Moorman's article on this most useful esculent, induces me to give my experience with reference to the matter.

In 1845, the year the Potato blight first made its appearance I saw many Tomatoes diseased, more especially on the plants which were in shaded or damp situations. My father, who was at that time a grower for market, remarked he had never seen anything of the kind before, and, from its general appearance and the affinity of the Tomato to the Potato, considered it one and the same disease. When there ought to have been bushels there were hardly dozens of Tomatoes fit for market. The following year they were again diseased, but not to the same extent (the summer being drier) as in the previous year.

For many years I have observed the disease more or less, and to insure immunity from it have endeavoured to have my plants as forward as possible, so that the fruit perfected itself before the dull and wet weather of autumn. If possible I like to have the blossom set before planting out. When I had the means I grew some in pots in the Pine stove or vineries, so as to ripen in June when they were much appreciated.

My experience tells me that Tomatoes are as liable to disease when far removed from Potatoes as when in proximity to them, as on the first appearance of the disease some of the plants affected were far removed, no Potatoes being within 50 yards of the Tomato plants, and this year I have some disease at the east end of a south border, which is now partly shaded by a plantation, and 60 yards from where any Potatoes were grown; while at the other end with a 12-feet border, and a 6-feet path separating them from a plot of Potatoes taken up in August, no disease is visible. Evidently the disease is one and the same on the Potato and Tomato.

While writing about Tomatoes I would say to those who have never tried them, that small green Tomatoes are a good substitute for green Gooseberries in either tarts or puddings, and I say try them.—J. GADD, *Thorndon Hall*.

In the wet season of 1872 I had some Orangefield Tomatoes planted in an open space in the garden and trained to stakes; not far from the Tomatoes was a large plot of Potatoes, and both the Potatoes and the Tomatoes were ruined by the disease. During the same year I had other Tomatoes trained to a south wall, the border in front of which had produced early Potatoes, which were dug up before the murrain set in. The Potatoes on this border were scarcely affected with the disease. I do not, however, consider that the Orangefield Tomatoes in the open garden "took" the disease from the Potatoes, or that the Tomatoes on the south border escaped the disease because of the early digging-up of the Potatoes from the same border. The south wall had a broad coping, which sheltered much wet from the Tomatoes, while those in the open were exposed to the deluge. In my experience both Potatoes and Tomatoes are liable to the same disease if long exposed to heavy rains accompanied with a high temperature producing what is known as "muggy" weather. The disease of one of the Solanums named does not "take it" from the other, but it is engendered in either of them separately under the conditions named.—W. B. J.

## DECIDUOUS TREES AND SHRUBS.

PLANTERS for ornament make choice principally of Conifers and evergreen shrubs. In most instances these have foliage in various shades of green, though some are enlivened by gold or silver variegation, and others are ornamental from the profusion of their flowers. Evergreens have a sombre and monotonous aspect, especially in winter, whilst at all times they are dense and formal, and are suggestive of warmth, shelter, and repose. Deciduous trees and shrubs have in winter a dreary aspect, but even when leafless there is so

much lightness and grace in the disposition of their twigs, which, seen in conjunction with the noble trunks and massive arms, render them objects of admiration. Both evergreens and deciduous trees have claims upon the planter of an associate character. It is in winter when the trees are leafless that the Ivy encircling their stems and clothing their branches with the deepest of green foliage is most conspicuous, and that the Holly, covered with its scarlet berries, is most attractive. Evergreens, varied as they are, have a greater fixity of aspect than that presented by deciduous trees. If we except a few of the most prominent flowering evergreen shrubs, as Rhododendrons, Berberies, Laurustinuses, &c., a garden or pleasure ground mainly comprising evergreen trees and shrubs is much more barren of interest than one including deciduous trees, excepting during the winter, and even then there is often more to be said in favour of the deciduous trees than evergreens, for no grander sight is presented than a deciduous tree hung with snow, the trunk, limbs, and twigs supporting Nature's brightest crystals. Compare in mid-winter the giant of the Sierra Nevada, the pride of the Andes, and the Glory of Lebanon with the majestic Oak, the elegant Birch, and graceful Willow. There is a beauty in all, but I consider that evergreens in snowy weather are less attractive than deciduous trees.

As further elements of beauty in deciduous trees, the delicate tint of the early leafage, the blossoming, the full summer foliage, the rich autumn tints, and the fruit, are each in turn pleasing, if from no other cause than variation—change—one feature succeeding another, for scenery without variation must fail to please for any lengthened time. Variety, however, is not to be supposed as resulting from groups of trees or shrubs arranged without design. When a plantation must necessarily comprise but a few species it is preferable to form them into masses rather than to seek variety by planting a group in dots of one species; nevertheless, by planting groups of five trees we give distinctness, and by planting other groups at intervals, increasing their size as the view recedes, we produce a very agreeable effect. Distinct groups of trees have not the monotonous aspect of plantations made to appear without design by extremely diversified planting.

The foliage in all masses of trees and shrubs being much more abundant than the flowers, except in a few instances, the arrangement ought to be guided more by the colour of the foliage than by the colour of the flowers; but in arrangements of flowering shrubs or trees we must not oppose the pink of the Crab to the white foliage of the Populus alba, or the gold of the Furze to the Dogwood. They do not associate in colour, nor are they allied. The Crab and Furze are found in nature in a different kind of surface or soil to the White Poplar and Dogwood. No greater mistake is committed than seeking for beauty by planting trees in soils and situations altogether unfit for them. Of this fancied beauty is the mixing of trees and shrubs in shrubberies, and the scattering of them singly on lawns, which only tends to produce intricacy and variety by anomalous forms. Intricacy when produced by objects of the greatest simplicity is agreeable and satisfactory, but to produce intricacy by an endless number of regular forms is incongruous. Irregular and regular shapes mixed together are generally unsatisfactory, and none more so than the irregular planting of trees and shrubs on lawns without any regard to relation or order. The mixing of flower beds with groups or isolated shrubs or trees on lawns is one of the most common of errors in ornamental gardening. The one injures the effect of the other, for however picturesque it may be to see trees, shrubs, and flowers struggling together in natural scenery, the object of collecting trees, shrubs, and flowers is that they may be displayed to greater advantage, and to do this they must have conditions favourable to their production in the highest excellence. No shrub attains to anything like the superiority under a tree as that of a similar shrub in the open. No herbaceous plant shaded by trees or shrubs, or the soil penetrated by their roots, will arrive at the fullest beauty; and in shrubberies or mixed clumps plants of an herbaceous kind are kept from arriving at perfection. Ligneous and herbaceous plants are of an entirely different character. The beauty of an herbaceous plant is its habit and the colour of its flowers. To enjoy it, it must be near the eye. The expression of a tree is stateliness and dignity, and to take it in its full proportions the eye must be at a certain distance from it. By placing flowering plants in the foreground of shrubberies we may be said to derive the expression of both. Admitting this, it is still clear that the two

expressions do not harmonise (the flowers in the foreground derogate from the expression of the trees), and their discordancy ought to prevent their being planted together.

If trees and shrubs or shrubs and flowers are to be exhibited on the same lawn they will always be most effective when displayed in separate beds, the trees being planted in the background or point most distant from the eye, the shrubs in the mid-distance, with the flower beds in the foreground, grouping each by themselves. In this manner the inconsistency of mixing trees and shrubs together would be avoided. Another very desirable mode of introducing beds and borders of flowers is to enclose an open space with shrubs. Evergreens are generally chosen of such a kind as naturally grow compact or that admit of being cut into shape. It is considered that dark and shining foliage, as that of the Yew, Holly, Laurel, and Rhododendron, form the best of foils to masses of colour. It would be absurd to form an outline of coloured-leaved shrubs in accord with the colours of the flower beds, and equally absurd would be an outline to such a garden of flowering shrubs, for the latter would derogate from the beauty of the principal object in view. As to the form of the outline or screen, if the outline of the beds for flowers be scrolls—regular, or symmetrical, or geometrical—the outline of the shrubs will best accord by being kept formal and regular; but if the beds are of irregular forms at irregular distances, the shrubs surrounding must be allowed to assume more of their natural forms.

It does not of necessity follow that we must not employ evergreens with deciduous trees. Naturally we have Ivy, Holly, and Spurge Laurel, springing up simultaneously with deciduous trees in our own country. This kind of undergrowth we may, in either evergreen or deciduous shrubs, imitate; but the trees should predominate. We must not, however, plant trees and shrubs together with a view to exhibit them in the fullest excellence. If we introduce evergreens at all we must make choice of such as thrive fairly in the shade, and to effect this it is important that the shrubs and trees are planted at the same time, so that they may grow up together. When this is attended to there will not be any difficulty in securing an undergrowth of evergreens; but when it is neglected there is much difficulty, from the pre-occupation of the soil by the roots of the trees, in establishing shrubs beneath them.

In the arrangement of trees and shrubs the trees should be at the point most distant from the eye, whether they be evergreen or deciduous; and if we must of necessity employ both in the same arrangement, I should plant the most light, ornamental, and flowering shrubs where they would just be seen amongst and through the interstices of the evergreens, in such a way as to display their foliage and flowers to the eye of the spectator. Evergreens as a rule should preponderate near the residence, and by judiciously employing variegated kinds much would be added in giving variety, especially in winter. I do not mean that the mansion should be encased by evergreens as were monasteries by Yews, but employing such as are of low growth, so as not to interfere with the architectural effect, when they are seen at a distance, in connection with the building; and I should employ principally evergreens in what may be termed the boundary of the lawn, and keep that as open as practicable, for upon the distinctness of the foreground will depend the beauty of the objects beyond. Upon the lawn should be no closely-planted masses, and few isolated trees or shrubs, as they tend to diminish the apparent space from every point of view.

In the foreground of course will be flowers, but I have said so much upon this subject that I will not again at present allude to it, only to remark that in small gardens, where it is desirable to include something of everything, flowers must necessarily be admitted and made the most of.

I now come to the want of variety, which is occasioned mainly by the occupation of so much space by commonplace subjects as Laurel, Holly, &c. Most pleasure grounds are repetitions with a vengeance, and I would advise the thinning-out of these shrubs considerably, leaving only the best specimens, and introducing in their stead more ornamental subjects, which would be more in accordance with the views before expressed and the advanced stage of gardening. Almost anything would be better than the tangled condition presented by the trees and shrubs forming a majority of shrubberies. It may gratify to see trees and shrubs struggling for mastery, but it does not constitute the beauty resulting from their subjection to culture, whereby we bring out the beauty of the

individual tree or shrub, and at the same time enhancing the general effect.—G. ABBEY.

## KENSINGTON GARDENS.

THIS beautiful place of public resort is 250 acres in extent, and is pre-eminently favoured by being the chosen resort of rank and fashion. Kensington Gardens are surrounded with wealth and luxury, and are the centre of a fashionable quarter of the metropolis. The mighty power of money is evidenced on all sides in the magnificent mansions which have risen during the last few years, where only a short time previously were fields and market gardens. The change has been from comparative insignificance into affluence and fame; but the Gardens seem to present nearly the same general features now that they did when surrounded by market gardens, and were then, as now, remarkable for the splendid old trees which are to be seen in all parts; and judging from the healthy young trees which may be seen growing, and the great ability displayed in the planting of them, there will be no lack of shade for generations to come, for here we have beautiful avenues, groves, and glades among young trees growing every year into beauty.

The fine lines of young trees that form the avenues running from the round pond to the east, north-east, and south-east were planted by the late Mr. Mann forty-six years ago. The old trees had then been decaying for some years, making gaps that young trees could not fill; and as there was space sufficient to admit a line of young trees being planted in front of the old this was done, and the result is that there are groves of half-grown and flourishing trees, the older and taller trees in the rear towering above them, and blending their foliage with them in a very pleasing manner. The ornamental effect of their association is greatly enhanced in the autumn, for the old trees change colour before the young trees, bringing out with marked distinctness the variety of foliage-tints and clear outline of forms. It is said that in a grove or an avenue the same object is seen from beginning to end. Granted, but here is a perpetual change, for here are groves of Limes and avenues of Elms; in fact they meet and cross each other in all directions, and there are also groves of Chestnuts, Hornbeams, Planes, and Beeches. These have a simple and grand effect without any sameness or even formality. In the spring time there is something very charming in these rows of trees; every line has its peculiar tint of green, which is soft, fresh, and delicate, and they are very enjoyable especially early in the morning. Nature's works are more beautiful at daybreak than at any other time, when the glittering dewdrops are still fresh upon the leaves, and the music of birds around you singing sweet songs of welcome to the opening day; and assuredly you may catch a wafting of flowery perfume, for the murky vapour emitted from surrounding chimneys cannot hinder the trees from growing, the birds from singing, nor the flowers from blooming.

There are many pleasant walks and promenades to be found in these Gardens. From the high road, Kensington, to the high road, Bayswater, is a gravel walk 60 feet in width, and on each side are stately old Elm trees in excellent health. The banks of the Serpentine in these gardens, popularly spoken of as the Long Water, have been much improved by the planting of ornamental trees, shrubs, beds of Rhododendrons, and flowers; also good gravel walks have been made leading to the fountains, which materially enhance the beauty of the place. The water forced into the air assumes a variety of beautiful forms, which, added to its clearness and its familiar sounds, is very refreshing on a hot summer's day. North-east from this point the Gardens are very picturesque. There is that pleasing variety of outline for which scenes in nature are eminently distinguished; there is also a natural disposition of trees and shrubs, with ornamental waters, serpentine walks, plantations, and avenues, so associated as to form an harmonious whole. At this part of the Gardens there are some massive old trees, one of the most picturesque is a Wych Elm. Its knotty trunk is about 6 feet in diameter. Its foliage, though massive and thick, never appears heavy to the eye, owing to the lightness of the spray and the loose free manner in which the leaves adhere to the branches. This part is also adorned by a most beautiful specimen of the Horse Chestnut; it is standing alone, and has expanded its branches over a large extent of ground, forming a charming summer shelter; there are also many fine Beeches. The Beech attains to a great magnitude when standing alone, and exhibits the appearance of a round-headed and spreading

tree, but when it is surrounded by other lofty trees it loses this characteristic. One here surrounded by Lime trees is 120 feet in height, and the trunk 6 feet from the ground is 12 feet in circumference. The Beech is one of the most ornamental of forest trees; its smooth bark, its dignity, its pendulous boughs, and its glossy foliage render it a chief ornament in any landscape. For public walks, drives, and avenues it ranks in the first class for picturesque beauty. An avenue of Beeches may be seen from the fountains, as shown in the engraving, running in a south-westerly direction. There is no fear of Kensington Gardens becoming an open plain if the planting of trees is carried out as it has been for the last forty-five years.

The Albert Memorial is a fine addition to the Gardens, and is at all times a source of admiration to visitors, and the general opinion of observers concerning this fine piece of work

and down to a much later period there were restrictions in force, giving the Gardens something of a private nature, but now they are free.—N. COLE.

### A TWO-STOURED PLANT HOUSE.

THERE can be no question about the present age being one in which improvements in almost every department are being sought for and adopted. Dwellings of all kinds are now-a-days constructed on principles which adapt them better to their requirements, and horticultural structures assume various forms. The disposition to make the most that can be made of a given space is in itself praiseworthy, and we now see crop succeed crop with but little intermission. In the construction of buildings adapted for fruit or plant-growing vast improvements in the construction and heating have taken place, and mechanical

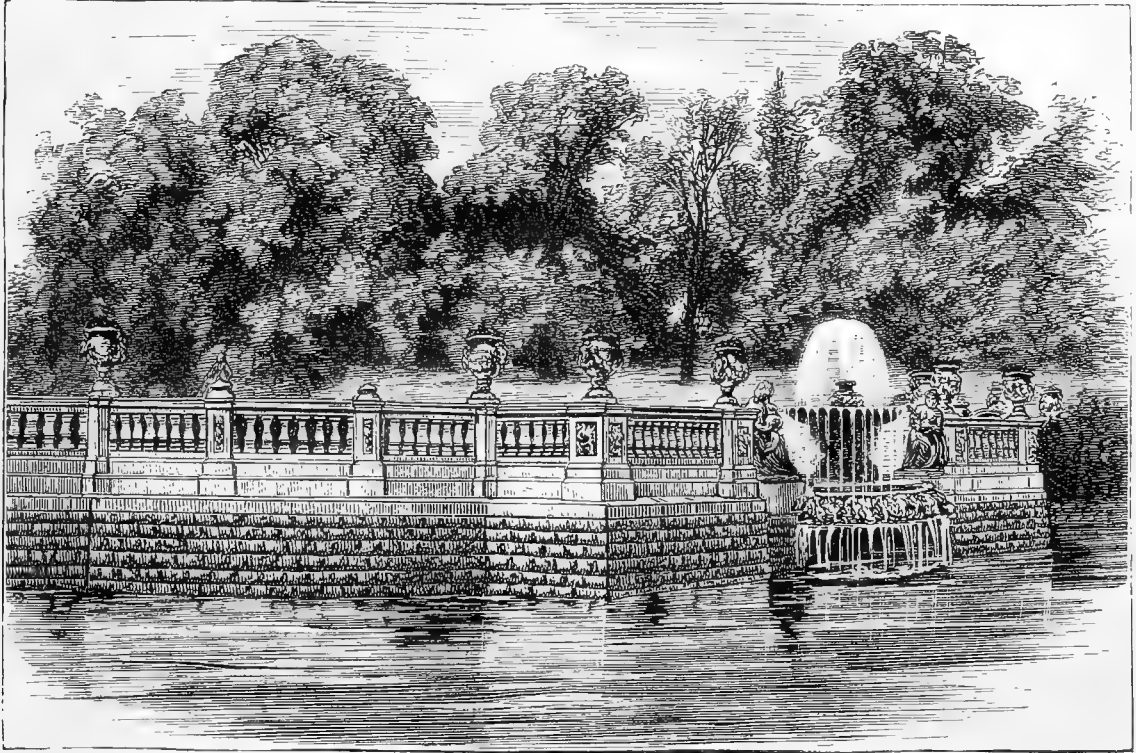


Fig. 53.—KENSINGTON GARDENS.

is that the Prince was worthy of it, as he did so much for the arts and sciences during his lifetime. This portion of Kensington Gardens formerly belonged to Hyde Park, and a few years back was taken away on the principle of robbing Peter to pay Paul; and those who can remember this corner when belonging to Hyde Park, and will compare what it was then with what it is now, will best appreciate the alteration, for what was an untidy and desolate-looking piece of ground has been transformed into a charming pleasure ground.

The long flower walk is the most fashionable and at the same time the pleasantest promenade in the Gardens; it is 700 yards long, and possesses many charms. The botanist of high culture may be gratified and the public be interested, for here is a large assortment of choice trees and shrubs on each side of the walk correctly named, and the shrubberies are fringed with herbaceous, bulbous, subtropical, and bedding plants.

The Ivy cottage in the Gardens and its semicircular garden plot opposite attracts thousands of admiring spectators during the summer months, and for their comfort chairs are placed in shady spots under the forest trees by which the cottage is in part surrounded. The round pond near the palace was made in the reign of George II. by his consort Queen Caroline.

The Gardens were almost private in the reign of George II., the public being admitted on Saturdays only when the King and Court were absent, and then only in full-dress costume,

contrivances of various kinds have been brought into use. Neither have improved modes of cultivation been neglected; and when a more simple plan is devised than that previously adopted the knowledge thereby obtained is turned to account, and plants requiring shade as well as those delighting in the full sunlight have been each accommodated with suitable dwelling places.

A noteworthy example of this as well as of the use that may be made of a limited space was exemplified at one of those fashionable villas which are rising in the neighbourhood of large towns. In the case alluded to was attached to the residence a horticultural building of a kind I had not previously seen, being, in fact, a two-storeyed conservatory; not a gallery or raised pathway over a plant house, enabling the observer to look into the tops of the plants as in the large conservatories of Kew, Chatsworth, and other places, but one plant house over another, in the same manner that one dwelling room is over another. The lower one of the two here alluded to was devoted to Ferns, while the upper one was for flowering plants, being, in fact, a conservatory with creepers, &c. I could only obtain a passing glance of the two, yet I could see sufficient to prove that the Ferns were doing well, and there could be no reason why the flowering plants should not prosper equally well. The upper structure was entirely of glass, the lower one lighted all round with glass.

The plan may be adopted elsewhere, but to me it was new,



and I thought novel and well adapted for many situations where space is valuable.—J. ROBSON.

### NOTES AND GLEANINGS.

ALTHOUGH the FRUIT SHOW, which was announced to be held at South Kensington on November 8th, is officially postponed, there is reason to believe that the meeting of that date will be of more than ordinary interest. The competition for the prizes offered by Messrs. James Carter & Co. and Messrs. Sutton & Sons cannot fail to bring out some worthy products; and the excellent suggestion of Mr. Gilbert in the *Gardeners' Chronicle*, that gardeners should show their respect for the "old Society" by exhibiting fruit, &c., will possibly be acted upon by those who are able to do so. What may be done by voluntary effort and good will was well shown in the nurserymen's exhibition of last year, and Mr. Turner has again notified his intention of exhibiting a large collection of Chrysanthemums; and we hear that Mr. B. S. Williams also intends to contribute largely out of the abundance of his extensive and valuable storehouse.

—MR. DICKSON of Arkleton thus refers to two new Grapes—the DUKE of BUCCLEUCH and VENN'S BLACK MUSCAT:—"I grafted two of the former last year, and so far they have done well. I had five bunches on one and two on the other." Alluding to the keeping qualities of "the Duke" Mr. Dickson states that he has a bunch hanging now in a perfect state which was ripe in August. He has a good opinion of this Grape, which he describes as "a grand Grape when well grown." On Venn's Muscat he writes: "This also is a good Grape, and most decidedly I think it quite distinct from Muscat Hamburgh. I have it inarched on Muscat of Alexandria and also on its own roots."

—MR. A. BOYLE in a note on the TOMATO DISEASE observes that "W. C. Smith and 'SOUTH DEVON' have somewhat misconceived my meaning when I said 'My experience appeared to show that Tomatoes take the true Potato disease from neighbouring Potatoes whenever there is wet weather.' By this I did not mean that Tomatoes do not otherwise take that disease, only that they would more certainly do so (and probably to a worse extent) in the circumstances named. The instances I cited of Tomatoes in my neighbourhood at a distance from Potatoes escaping the disease were adduced to show this merely, and not that the plant in question is always free from that disease when away from the Potato."

—WE have had sent to us a profusion of ANTIRRHINUM FLOWERS, each different and all raised by Mr. Caudwell, florist, Wantage. They are large, handsome, and of the best strain.

—MR. JOHN ATKINSON of Brigg writes to us as follows on LARGE MUSHROOMS:—"Having seen an account in your Journal of September 28th of some large Mushrooms which had been gathered in Ireland, I thought it might be interesting to your readers to know that a still larger specimen of *Agaricus arvensis* has been found in England. I picked on the 10th of this month in an old pasture at Winterton in the county of Lincoln a Mushroom, the two diameters of which measured 1 foot 1 inch and 11 inches respectively; the weight being 1 lb. 9 ozs. This Mushroom was most delicious when cooked."

—MR. A. J. TEMPLE, formerly steward and gardener to Mrs. Roe, Nutley, near Dublin, has been appointed gardener and general estate superintendent at Hartsholme Hall, Lincoln, as successor to Mr. Holah. Mr. Allis, who was formerly gardener at Hartsholme, is now manager of the old Warden Hall estate near Biggleswade, belonging to the same proprietor, J. Shuttleworth, Esq.

—IN the list of our imports from British India TEA is distinguished by the large increase shown in the returns for last year. The quantity rose from less than 18,000,000 lbs. in 1874 to upwards of 25,000,000 in 1875, and the value advanced to nearly £2,200,000, giving Tea a place among the articles for which we pay India more than £2,000,000 sterling in the year. The Indian Government report on the financial year 1874-75 states that the cultivation of Tea is rapidly spreading in Bengal, and the amount of the out-turn is now amply remunerative. The prices obtained in the market are such as show that the average quality is good, and, indeed, the industry is in an infinitely better and safer position than it was ten years ago. The native labourers are well treated by the European planters, and are generally contented. The best labourers come from Nepaul, and bear a good character for

industry and aptitude. In the Darjeeling district the increase of area under Tea cultivation in the year was 3193 acres, and the increase of out-turn was 971,201 lbs. The average yield of an acre was about 325 lbs.; in 1872 it was about 256 lbs. The Tea plant was introduced on the Neilgherry hills about forty years ago, and now covers nearly 2000 acres. The China variety, with which the oldest of these estates are planted, is the most hardy, but grows slowly and produces very little leaf; the Assam variety, on the other hand, grows rapidly and is a large producer of leaf, but it requires a sheltered situation on a rich fertile soil. The cross between the two is the most generally useful.

—REFERRING to STRAWBERRIES as a FIELD CROP, the *North British Agriculturist* states that a grower near Cupar-Angus netted £400 this season from three acres of Strawberries on thin land. The plants on which these grew were four years old. Another near Perth refused £2800 for the crop of twenty-eight acres of Strawberries, and the offerer was to have gathered the crop, which was a splendid one. Aberdeen and its surrounding districts have for years been famous for Strawberry production. This year, however, the crop has not been quite so good there as it sometimes is, neither in quantity or quality. Strawberries have, however, been a good crop in some parts of Perthshire and Forfarshire, and have paid the growers handsomely. The cost of planting an acre does not exceed £20, and the plants remain good for several years. On thin land in Kent many acres are devoted to Strawberry culture, and few other crops pay the growers so well.

### NOTES ON VILLA AND SUBURBAN GARDENING.

THE FLOWER GARDEN.—If not already done, all tender plants which are needed for store plants should be taken up and potted before frost comes and injures them. We annually take up a large number, and the work is done with much care, especially among variegated sorts. Some of the roots may be shortened and some of the foliage removed, and a few of the strongest shoots may be cut off, so as to make the plants compact and convenient to pack into close quarters. Sandy loam and leaf soil is suitable compost. We generally use boxes of a convenient size and depth, also in some cases pots, and the plants are put in thickly and kept in a cool, dry, airy place. A slight bottom heat for a time to induce the plants to make fresh roots is good, but is not always provided in an amateur's garden. Many plants can be preserved through the winter in frames if means are adopted to keep them secure from frost and damp. Verbenas can be so kept, but the plants must be dusted with sulphur occasionally to keep mildew away. A dry bottom for the pots is necessary, and an inch or two of ashes put down will be an advantage in placing the pots level. Both cuttings and plants should be freely exposed as often as possible with safety so as to have them well established. Water should be very sparingly given, and if possible on bright mornings, and then the lights can be left off till the foliage is dry.

Prepare a place for *Calceolaria* cuttings, which may be inserted now. It is a very easy matter to strike them. The shoots chosen should be those which have not flowered this summer, and which are now growing and healthy. They should be cut into lengths of about 2 inches, removing some of the lower leaves, so that the cuttings may be dibbed in the soil about an inch—just sufficient to make them firm. Light loam, leaf soil, and sand will be a suitable compost, but it must be sifted so as to press closely against the cuttings. The bed in which they are to be struck should be made level, and the cuttings put in rows about 2 inches apart, and afterwards watered sufficient to settle the soil about them. Many thousands can be put in in a day if needed. They must be protected from frost, and after being rooted exposed to air and sunshine; but before that they must not be allowed to flag from the effects of sun, or they go off. They are not subject to suffer from damp, but moisture rather favours their rooting. I sprinkle my cuttings every morning, and if they are put in properly not one in a hundred will fail to root. In the spring the points of each shoot must be taken out, which will cause them to produce side shoots. Attention must be given to the timely thinning-out of the plants, for if they are allowed to grow thickly together the shoots run up weakly, and the plants never recover their compactness. The plants which are taken out may be planted in another bed or potted, and all of them will be ready for planting out in spring before any other bedding plants.

Old plants of *Calceolarias*, if taken up and potted and placed in a cold frame, will pass through the winter safely, and in spring they will produce fine large bunches of yellow flowers which will prove very useful and ornamental. The plants will need manure water at flowering time.

Chrysanthemums are now coming on quickly, and if the buds are plentiful it will be well to thin out some of the smallest,

which improves the size of the flowers. The plants need plenty of water daily to preserve the leaves in a fresh green state.

Trees, shrubs, and evergreens may now be transplanted, and one general rule does for all. For every plant a hole should be dug out wide enough for the roots to be spread out freely, placing the soil carefully among them and treading it in well. Afterwards give a copious watering sufficient to penetrate all the soil, and fasten the trees to stakes to secure them against winds.—  
THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

We have now finished gathering Apples and Pears, and have them all arranged on the shelves in the fruit room. Some of the latest sorts would hang upon the trees until the middle of November or later; but it is not desirable to allow them to do so, even if there was no possibility of their being injured by frost. Fruit that is intended for use during the spring months (and some of it may be preserved up to midsummer) should first be placed in an airy room, and spread out as carefully as possible. Here it ought to lie for a few weeks, and by that time some will have decayed, and should be removed as soon as possible to prevent the decay spreading. The fruit should then be removed to a cool cellar where frost cannot gain access, or a cool fruit room where the sun does not shine on it would be equally well adapted for the purpose. Many persons may not have all the above conveniences. It is well to note that a room with windows facing south, and the walls only 9 inches thick, is very well for ripening fruit off when its season is near at hand; but such a room is about the worst place for late fruit, Apples especially in such a room shrivelling prematurely.

There are various methods of preserving Apples in a sound plump condition for late dessert purposes. I once saw some fine well-kept specimens exhibited by a clergyman at a provincial exhibition in Scotland in early summer or late spring. They were much admired, and were the objects of considerable attention at the time. They had been placed in fresh moss clean and slightly damped. The late Mr. Knight, who gave considerable attention to the keeping of fruit, considered the following mode the most successful. Earthen vessels, each containing about a gallon, were used. Each fruit was surrounded with paper, and the vessels were placed one over the other, the space between the top of one and the base of another being filled with a cement composed of two parts of the curd of skimmed milk and one of lime to perfectly exclude air. The vessels were placed in a dry cold situation where there was little change of temperature. He also found the merits of the Pears to be greatly increased by their being taken from the vessels and placing them in a warm room for about ten days before they were wanted for use. I have kept fruit well by placing each separately in paper and packing it in boxes, filling up the interstices with fine dry sand.

Many persons keep Gooseberries and Currants by placing nets or mats over them. It is necessary to remove the protectors on fine days, to remove all decaying leaves or mouldy berries. When the bushes have become dry, mat or net them up again. Birds, mice, and other depredators make strenuous efforts to get at the fruit. Trap the mice, and see that the birds do not find their way through the coverings.

No time should be lost in preparing ground for fruit trees. If the soil is not in good condition it ought to be trenched at least 2 feet deep if the nature of the ground will admit of it. When the trees were planted at Loxford Hall the ground was very poor and had never been trenched. Trenching was done in November, and the trees were planted at once, placing some good maiden loam round the roots of each tree. They made fine healthy growth the next season, and in October the borders were again trenched and the trees replanted. As the operation was proceeded with a barrowload of loam was placed around the roots of each tree. This was necessary, as the ground had been planted with fruit trees for nearly, if not more than, half a century. A very liberal supply of manure was also worked in with the soil, but not placed in contact with the roots, and the results have been very satisfactory.

Pruning of wall, espalier, and other trees may be proceeded with, and digging and trenching should be done at once. There is nothing like having all work forward when the weather permits.

### PINE HOUSES.

This is excellent weather for ripening fruit; very little artificial heat being required. The ventilators can be opened to a considerable extent by day, and may be closed early in the afternoon, leaving the top lights down about half an inch all night. Some little judgment is necessary as to the proper amount of water to be applied to the roots of the plants, as well as to what is allowed to evaporate in the house. If a Pine plant is in good condition and sufficiently moist at the roots when the fruit begins to change colour, probably no more water will be

required until the fruit is quite ripe. During the dull cold days of winter very little water is required to the roots of fruiting Pines.

If it has not already been done, all the plants should be arranged in their winter quarters. The fruiterers in different stages require a night temperature of 65° all through the winter months, and a bottom heat of from 85° to 90°. The best winter Pine, taking all points into consideration, is the Smooth-leaved Cayenne. It must yield the palm for flavour to the Black Jamaica, but this last-named variety is not to be depended upon to start into fruit just when it is wanted, and the fruit is very often not more than half the size of the Cayenne. Charlotte Rothschild sometimes throws a noble fruit, but often disfigured by having an overgrown crown. Those plants intended to start early next season are now at rest; very little water is applied to the roots, and the night temperature is 55°. By far the best variety for early forcing is the Queen, and it is the best sort to grow for market purposes. Good Queens weighing from 3 to 5 lbs. will generally fetch about 6s. a pound on the average.

Many persons keep the succession plants growing-on all through the winter months, but as a rule this is neither necessary nor desirable. Growth made at the "dead" of winter is of the palest unhealthy green. The plants will be at rest if the night temperature is kept at 55° and they do not receive much water at the roots. We admit air as freely as possible.

### GREENHOUSE AND CONSERVATORY.

Chrysanthemums have all been placed indoors. Most of the plants had been attacked by mildew, but this was destroyed by dusting the leaves with flowers of sulphur. There are many specifics warranted and patented to destroy this pest; probably most of them will answer their purpose, but nothing else is necessary except sulphur pure and simple. It may either be used by dusting or mixing the powder with soft-soapy water. The mixture may be applied with a syringe, or if the plants can be dipped in the solution so much the better. When there is green fly on the plants it must be destroyed by fumigating. Damp is very injurious to the large blooms intended for exhibition, the outer petals become mouldy, and decay soon spreads amongst them. The decaying petals must be promptly removed, and the house should be freely aired. Care must also be taken that no water is spilled when applying it to the plants. Specimen plants are being trained into shape either for exhibition or for decorative purposes. The Pompon varieties do not require to have the flowers supported by sticks, but the large-flowered section must have each bloom supported, and good culture is recognised when there is a sufficient groundwork of healthy green leaves to almost hide the stems and sticks, and to prevent one seeing into the centre of the plants. If specimens of the highest merit are intended they should be placed quite near the glass, have plenty of light and air, and not be crowded with other plants.

We have potted the Hyacinths and Tulips. Many of the roots were making signs of growth, either by pushing-out from the crowns or by emitting roots from the base. It cannot but be injurious to the bulbs and to the future strength of the plants to allow much growth before potting or planting them.

Green fly made an appearance on stage Pelargoniums, tree or perpetual-flowering Carnations, and other plants in the greenhouse. Fumigation with tobacco smoke was resorted to at once. It is very desirable to destroy all the aphid tribe on its first appearance, or even if none are seen on the plants at this season fumigating two or three times at intervals of three days is desirable. We have been training hardwooded plants as opportunity offered.

### FLOWER GARDEN.

We have been clearing-off the summer bedding plants in order that the beds may be planted with Wallflowers and other plants for spring flowering. Beds of Pelargoniums grown for their foliage, and plants such as Iresine, &c., look better now than they have done at any time during the summer; but it is not safe to leave out any plants of this kind after this date. It is now time that all the spring-flowering plants were in their places, so that they may be established before the weather becomes colder.

Auriculas have been removed into a sunny position. They are liable to suffer from damp if the decaying leaves are not removed. In watering great care is necessary to prevent the leaves being wet. Carnations and Picotees have been potted and also placed in frames, the pots being plunged to the rims in cocoa-nut fibre refuse. Pinks planted out about a month ago are now well established and growing freely.

Roses are giving us some very fine flowers; they are very large and more highly coloured than usual.—J. DOUGLAS.

## TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, Evergreens, Climbers, &c.*  
D. McKenzie & Son, The Nurseries, Cromarty and Tain, N.B.—*List of Transplanted Forest and Fruit Trees, Shrubs, &c.*

Eugène Verdier, fils aîné, 37, Rue Clisson, Gare d'Ivry, Paris.  
—*Catalogue of Gladioli, Roses, Pæonies, &c.*

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LIVERPOOL (Chrysanthemums). November 2nd. Mr. R. Wilson Ker, 6, Basset Street, Church Street, Hon. Sec.  
JERSEY (St. Helier's) (Chrysanthemums). November 8th. Col. H. Howell, Hon. Sec.  
SOUTH BERMONDSEY (Chrysanthemums). November 18th and 14th. Mr. D. Jewiss, Rosedale Arms, Rosebury Street, Bermondsey, Sec.  
NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.  
WIMBLEDON (Chrysanthemums). November 15th and 16th. Mr. P. Appleby, 5, Linden Cottages, Hon. Sec.  
BRIXTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Goldfinch, Sec.  
LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapmazz Street, Loughborough, Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

NAMES AND ADDRESSES OF GARDENERS (C. C.).—They are given in the "Horticultural Directory," which may be had by post from our office for 2s. 3d.

NAMING FRUITS AND PLANTS (R. B.).—When we omit any it is because we do not recognise them.

STOVE FOR GREENHOUSE.—"N. C." wishes to be informed of one that does not cause a disagreeable smell in the house, and will continue burning throughout the night.

MADRESFIELD COURT GRAPES (Reason).—No box has been received.

TRANSPLANTING A LARGE RHODODENDRON (An Old Subscriber).—Rhododendrons possess such an abundance of roots that no special preparation is required for the transplantation of the largest specimens; only take care to secure as large a ball of soil about the roots as is practicable, and you may remove it at once or at any favourable time onwards to the spring.

VIRGINIAN CREEPER FOR COVERING A HOUSE (Idem).—For a very lofty building the large-leaved strong-growing variety *Ampelopsis hederacea* is best, for it will attain a height of 50 feet and cover an area of 1000 square feet of wall surface in five years if planted in good soil—a rich loam—and carefully trained. For lesser heights, say of 20 or 30 feet, we altogether prefer the more elegant and compact growth of *Ampelopsis Veitchii*. The foliage of this kind, however, changes to a deep bronzy purple, and is less brilliant in colour than *A. hederacea*.

HYBRID PERPETUAL GARDEN ROSES (Mrs. Holmes).—Reds: Alfred Colomb, Dupuy Jamain, Madame Victor Verdier, Sénateur Vaisse, Dr. Andry, Duchesse de Caylus, President Thiers, Marie Baumann, Etienne Levet, and Comtesse d'Oxford. Dark and Crimson: Charles Lefebvre, Duke of Wellington, Duke of Edinburgh, Fisher Holmes, Louis Van Houtte, Maréchal Vaillant, Pierre Notting, Prince Camille de Rohan, Xavier Olibo, and François Louvat. Rose: John Hopper, Thorin, Victor Verdier, Madame G. Schwartz, Madame Therèse Levet, Annie Laxton, François Michelin, Marquise de Castellane, La Ville de Lyon, and La Duchesse de Morny. Pink: Berthe Baron, Elie Morel, Monsieur Noman, Gloire de Vitry, Emile Hausburg, Abel Grand, Comtesse de Chabrillant, Marguerite de St. Amant, Lyonnaise, and Madame Clerf. Light: Baronne de Rothschild, La France, Madame Noman, Boule de Neige, Madame Lacharme, Mdlle. Bonnaire, Mdlle. Eugénie Verdier, Sophie Coquerel, Bessie Johnson, and Gloire de Dijon (Tea-scented).

COMPOST FOR PLANTS (E. J. T.).—*Stephanotis floribunda*—equal parts of fibrous loam and sandy fibrous peat, with a fourth part of leaf soil and a sixth part of silver sand. *Euphorbia jacquiniiflora*—light fibrous loam three parts, with a part each of leaf soil and sandy peat, and a sixth part of silver sand. *Hoya bella*—light fibrous loam and sandy turfy loam in equal parts, with a fourth of pounded bricks or broken pots and a sixth part of pieces of charcoal and silver sand. *Clerodendron*—fibrous loam three parts, two parts sandy peat, and a part each of old cow dung or leaf soil, some pieces of charcoal, and silver sand.

RED-FLOWERING STOVE CLIMBER (Idem).—*Passiflora princeps* has very persistent foliage and long cyrines of flowers. It has never been out of flower with us for the last five years. *Ipomœa Horsfallii*, deep rose, is very fine about this time, and *Combretum grandiflorum* has scarlet flowers, and flowers in summer, usually during May and June. We prefer the *Passiflora*.

CLIMBERS FOR NORTH WALL (Idem).—Besides the Ivies, which are first-rate, you may plant *Ampelopsis hederacea*, *A. Veitchii*, and *Clematis vitalba*, with *Jasminum nudiflorum*, which are all deciduous.

CARNATION AND PINKS FOR WINTER-FLOWERING (N. C.).—We presume the plants are well established in pots, and in a forward state. All they require is a light airy house, and a temperature of 50° to 55° by day, and 50° at night. The Pinks to be introduced to such a house from an ordinary greenhouse early in November, and a few plants subsequently at intervals of about three weeks to keep up a succession of flowers; then be kept near the glass, have air freely in mild weather, and be duly supplied with water.

EVERGREEN AND DECIDUOUS SHRUBS FOR A SMALL GARDEN (Idem).—Evergreen:— *Aucuba japonica maculata*, *Buxus elegantissima*, Holly (gold

and silver-variegated), *Viburnum tinus hirtum* (Black-leaved Laurustinus), *Berberis Darwinii*, *Yucca recurva*, *Rhododendron* in variety, *Andromeda floribunda*, and *Kalmia latifolia*. Those, except the *Yucca*, may all be cut into form as they become too large, and in that way be kept compact. Conifers, which are best for the lawn, are—*Abies excelsa* and *A. claustralis*, *Biota (Thuja) orientalis aurea*, *B. orientalis elegantissima*, *Cupressus Lawsoniana compacta*, *C. Lawsoniana erecta viridis*, *Juniperus chinensis*, its golden variety (*J. chinensis aurea*) being very beautiful, *Retinospora pisifera*, *Taxus adpressa stricta*, *T. baccata elegantissima*, *Thujopsis borealis compacta*, and if room for a tall specimen, *Pinus cembra*. Deciduous shrubs are—*Cotoneaster Simonsii*, *Cydonia japonica* and var. *candidissima*, *Deutzia crenata flore-pleno*, *D. gracilis*, *Hydrangea paniculata grandiflora*, *\*Syringa persica incisa*, *S. persica alba*, *\*S. rubra insignis*, *\*Pæonia Montan* var., *\*Philadelphus naucis*, *\*Ribes sanguineum flore-pleno*, *Spiraea arifolia*, *\*S. ulmifolia*, *Rhus Cotinus*, *\*Viburnum dentatum*, *\*Weigela amabilis* and its white variety, *\*W. rosea*, *\*W. rosea Madame Conturier*, and *\*Azalea pontica* var. If too many deciduous shrubs are named select those distinguished by an asterisk.

ESPALEIER ROWS (J. E.).—They should be about 6 feet apart, being 5 feet high.

ASPHALTE FOR VINE BORDER (Vitis).—A good authority tells us that he knew the bottom of a Vine border rendered impervious with asphalt, without any injury to the Vines planted and grown on it for several years subsequently.

ADIANTUM FARLEYENSE (E. B. G.).—It is a native of Barbadoes and requires a stove temperature.

BENZOLINE FOR DESTROYING SCALE (A. B. P.).—As it answered so well on the *Maréchal Niel* Rose, we think it might be used for the same purpose on *Camellias* and other plants. Try it on one specimen, and then you will have the best tutor—experience.

TUBEROUS BEGONIAS (Old Subscriber).—Your "tubers" recently received are, we presume, in a dormant state. Place them in very sandy soil and keep through the winter in a greenhouse where the temperature is not below 40°. The pots should not be placed on a dry airy stage, or the tubers would become too much shrivelled. A rather damp floor would be preferable on which to place the pots, or they might be syringed occasionally to prevent the soil becoming dust-dry. In the spring when the tubers show signs of growth put them in a compost of loam, leaf soil, and sand, and place them in a gentle heat, such as is afforded by a *Cucumber* frame, subsequently removing them to the greenhouse as the plants attain growth.

HOUSE FOR ROSES (J. E.).—Your idea is a good one. You could not have anything better than a span-roofed house, with about 2 feet of brickwork above ground, and 3 feet of side lights, the width inside between the walls being 9 feet, having a border on both sides of the wall upon which the pots could be placed; but we should prefer to have the Roses planted out, and in that case we should have a foot more of side lights and a foot less of brickwork. At least a square yard of space should be allotted to each plant, so that your house will need to be as many yards in length as you have plants on the side, but less space will suffice for a time. The borders should be 3 feet wide, with a pathway up the centre of the same width, over which you can have trained at about a foot from the glass the vigorous-growing Roses as *Maréchal Niel*. It will be necessary to provide plenty of ventilation, having the side lights to open the whole length of the house. Tea-scented Roses as you propose would be the most eligible, but you will need to have a gentle warmth in severe weather—a 2-inch hot-water pipe along the sides of the house would be sufficient.

GRAFTING TRICOLOR PELARGONIUMS UPON ZONALS (E. D. L.).—It is performed in the ordinary manner, both by whip or tongue-grafting, cleft or wedge-grafting, and not unfrequently by saddle-grafting. We think saddle-grafting most preferable, leaving a leaf upon the shoot operated on so as to attract the sap. The *modus operandi* cannot well be described without illustrations, which are given in the "Science and Practice of Gardening." The plants after grafting require to be kept close, moist, and warm. Inarching is a certain method of operation.

STOPPING WALLFLOWERS AND ASTERS (Linda).—If the Wallflowers are stopped now they will not flower well in spring. These and many other plants are made leggy by allowing them to grow too thickly. They should be pricked-off when large enough to handle, and with plenty of room in an open situation they will be dwarf and well-furnished. Asters are not stopped, but they are grown-on slowly, and not drawn-up weakly by too close and warm an atmosphere in their early stages.

KEEPING GRAPES IN LATE VINERY (C. H. J.).—If you will read "Doings of the Week" you will find the information you require. The other question has been answered in a previous number.

FRUITING YOUNG VINES (D. W.).—We advise you to cut the canes of the permanent Vines back to 3 feet from the base of the rafters. Each cane, if strong and well ripened, will bear two or three bunches next season without any injury to the Vines.

MILDEW ON VINES (Irish Subscriber).—If Vine borders are in good condition, and the vinery is sufficiently ventilated, this parasite will not attack the Vines. Placing sulphur on the paths would do no good, nor would it on the hot-water pipes unless the fumes were thrown off by the pipes being heated to a considerable extent. You had better dust the affected parts with flowers of sulphur as soon as the mildew appears. At the same time keep up a night temperature of 55°, with as much ventilation as possible.

SOWING SEEDS OF LILIES (A. B.).—The seeds remain long in the ground before they germinate. You might sow in March in a gentle bottom heat, or now, and place the pot in a greenhouse.

GRAPES BECOMING MOULDY (J. J.).—No doubt the damp weather is the cause of this, aggravated in your case by the want of ventilation in the front of the house. Cut-out the mouldy berries as soon as they are perceived, to prevent decay spreading to the others.

DESTROYING INSECTS (R. S.).—Thrips may be destroyed by fumigating with tobacco smoke on two or three consecutive nights, repeating the doses in three weeks, when other insects will be hatched. The Vines, stages, and woodwork of the house should also be thoroughly washed (when the Vines are pruned), with strong soapy water, dissolving 3 or 4 ozs. of soft soap in each gallon of water, and applying it when hot, removing any plants out of the way of the hot solution. The walls should also be limewashed, mixing in the wash some flowers of sulphur. This thorough cleaning will also greatly check the red spider, which may be further prevented from doing injury by frequent syringings and the maintenance of a moist atmosphere

in the house. For the present fumigate and afterwards syringe, and then when the leaves fall from the Vines give the thorough cleansing as advised.

**HYACINTHS AFTER FLOWERING** (*Idem*).—As soon as the flowers fade remove the spikes and place the plants in a frame and attend to them by watering, so as to perfect healthy foliage, and when this shows signs of ripening withhold water. When the foliage has died down the bulbs may be removed from the soil and preserved in a cool place until September, when they may be planted in the garden or potted. They will not produce spikes equal to those from imported bulbs, yet will be attractive and useful. The great point to aim at is to keep the foliage fresh as long as possible after the Hyacinths have ceased flowering.

**NAMES OF FRUITS** (*J. Woodliffe*).—2, Nelson's Glory; 4, Minchall Crab; the others not recognised. (*J. Beck*).—1, Alfriston; 2, Bedfordshire Foundling; 3, Claygate Pearmain; 4, London Pippin. *Pears*: 1, Marie Louise; 2, Bergamotte Cadette; 3, Triomphe de Jodoigne.

**NAMES OF PLANTS** (*J. S. W.*).—We cannot recognise plants from leaves only. (—).—*Anemone vitifolia* and *Anemone alba* are not the same. *Anemone Ponorine* Jobert is the same as *Anemone japonica alba*. It is one of the finest of all hardy autumn-flowering herbaceous plants. (*W. D. H.*).—The glaucous-leaved plant is *Sedum Sieboldii*, a hardy evergreen, native of Japan. No one could name a Rose from such a specimen.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### THE BLOT ON THE CRYSTAL PALACE PRIZE LIST.

We have purposely waited until the Crystal Palace entries have been closed a week before referring to the subject of what appears to us a repeated mistake. By thus having waited we can in no way be said to damage the class in question by anything we are going to say, still we feel we cannot let the subject pass without one word of remonstrance.

We allude to the class for untrimmed birds at the coming Crystal Palace Show. After the tumult and warfare connected with the subject in bygone months, we did hope that on this occasion, in mere justice to the main body of exhibitors, the title of the class would have been differently worded. This year, however, as last year, the title runs, "Any other variety (not Game) not trimmed or plucked in any way." Last year, however, we found on the top of the class in the catalogue the words, "Vulture-hocked birds are eligible in this class." We considered this amusing, and could not help wondering for whose edification the words were printed. Not for the Judge, as he, we conclude, would not have the catalogue while adjudicating; not for the exhibitors, as they wanted to know that interesting piece of information before they entered, and not afterwards. So it must have been for the critical public; but surely they would have had sense enough to see that a vulture-hocked bird was eligible as much as any other bird shown honestly with any peculiar failing of its own. The class filled well last year, and made £10 10s. in entry fees, which, considering the first prize was a gift, placed a handsome balance to the good. If this was the reason of the repetition, very well, it is but natural that the promoters should look to their returns, and we can well understand their doing so in most cases; but here we do think it a somewhat different case. Let anyone look at it in every possible way, and we fail to see how they can come to a different conclusion to our own—namely, if an exhibitor shows in that class and in others, he affirms that his birds in the latter section are not honestly shown, while those in the untrimmed class are. We can understand it in no other way, and we hope that our chief exhibitors have this year avoided the class which we call the blot on the otherwise brilliant escutcheon of the Crystal Palace Show.

We have been told that the Committee kept to this class under its old name in mere bravado, because the class succeeded last year in spite of opposition; but this we will not believe, and we think even now the managing powers must have some underlying reason which is not so far apparent to us. Now, all know the value of hocked birds in Brahmas and Cochins for breeding purposes; had the class consequently been for "vulture-hocked Asiatics" we would have welcomed it warmly, though these are frequently ugly birds, which, invaluable as they are for some purposes, are best kept at home. Still, the class would have been more definite, and would have been well patronised we feel sure. We would not on any account wish to be misunderstood. We have had no conversation on the subject with anyone, and simply write in the interests, as we consider them, of all poultry exhibitors. It would delight us very much to hear that even now the class was to be confined to vulture-hocked birds, and perhaps to Spanish, and with a very little correspondence with those who have already entered this might still be done. We know how the subject was talked over last year, and how visitors criticised the "perfectly natural" birds, and wondered how so many scores and scores of other specimens were allowed to be exhibited in any way different to the state nature had given them. We think it is a pity that this should be so; and for this reason, and this only, do we take the subject up to-day, to touch upon it afterwards no more. Perhaps, however, we feel this nomenclature the more because there

is another grievance which is not remedied this year. We allude to the system of wanting all pens to come in single baskets; but we will not say much of this to-day, as all our readers know our feelings in this matter; and since such a mass of well-conducted shows now permit the use of the double baskets, which tend to so greatly increase their entries, proof of no other sort is needed to point out the wishes and feelings of the great body of exhibitors. The enormous entries at Oxford this week show us that chickens abound, and many of them of good quality; so in spite of the one foul quartering on this national coat of poultry arms, we once more hope to see the catalogue with four thousand entries and over.—W.

### OUR DUTY TO OUR FOUR-FOOTED AND FEATHERED NEIGHBOURS.—No. 2.

"He that doth the Ravens feed,  
Yea, providentially caters for the Sparrow."  
*Shakespeare's "As You Like It."*

BEFORE leaving the subject of the fens and birds that were there, let me notice how a name of a great king who reigned in this country, and over Denmark and Norway as well, is preserved by a little bird. I allude to one of the Sandpipers, the "Tringa Canutus." This bird is called commonly the Knot. It was a favourite dish of Canute, King of England; he who reformed his courtiers on the seashore. The bird was first called the Knute, then the Knout, and in process of time the Knot. Canute was a man of great ability and vast power, but all has passed away; his name preserved by an anecdote, and kept up by a little bird! A just process of reasoning may trace the bird to the king, and prove that there was such a king and so named. He little thought when feasting on his favourite dish of ash-coloured Sandpipers, that this insignificant long-legged slender bird before him would preserve his name. Such is fame, and so preserved. London arabs whisper to each other at the sight of a policeman, "Here's a bobby coming." O, shade of the great Sir Robert Peel! that nickname makes your name known to this generation. Who scarcely, but for it, would remember you? for the statesman's name, like the actor's, is in all men's mouths when alive, but is little remembered when dead. Another, and yet another actor comes on either stage, and "he too plays his part" and vanishes.

I have now come thus far in my reasoning. Birds and beasts at first abounded or rather super-abounded; man killed them for food, and to prevent their eating up his food. Presently it came to pass that man's weapons became weapons of precision, and were terribly fatal to the life of beast and bird. No longer the blundering off-failing bow and arrow, but the deadly gun came into use against bird and beast life. Then, in addition there is that love of destruction—of taking life, strongly developed in some men. Such cannot see a number of Rooks sailing in the air but long for a gun to kill some of them. These destructive men were when boys great robbers of nests; they could not see a bird on a bough but they must stoop and pick up a stone to kill it with. The prettiest Chaffinch whistling its May-day song was not the whit more secure than a chirping Sparrow. "Kill, kill," is the cry of such. A little later the boy becomes the hedge-popper; not a Finch, not a Linnet is safe. One moment it is a thing of beauty—bright-plumaged and happy as its little full heart can contain, all its fulness, love, and life, and enjoyment; the next a little mangled heap of misery—wing-broken, blood-soiled, legs smashed. Oh! for very pity rush up and wring its neck.

The French sarcasm has some point, I fear, even yet. "Happy Englishman!—it's a fine day, go out and kill something." Does a rare or curious bird appear it is sure to be killed, be it Bustard, or white Swallow, or cream-coloured Blackbird. There are plenty of imitators of Charles IX. of France, who cry out "kill, kill," and join in the killing. Nor are the other sex wholly free from blame in this matter of the threatened extermination of small birds. In the last century there was a fashion for feather work, and the bright blue feathers of the Jay's wing were specially prized. The poor birds would have been unknown to us now-a-days save by pictures, only the fashion changed. Fashion! oh, Fashion! Sidney Smith called the three per cents. the greatest fools on earth, from, I suppose, their changeableness at any breath of rumour. He might have instanced the more fickle goddess called Fashion, now dressing her votaries in balloon-like petticoats, and then a few years after, as now, in such skimpy garments that going up a flight of stairs is an impossibility. But these fashions only regard the inconvenience of the wearers and punish their devotees. But there is another fashion, that of ladies wearing stuffed specimens of small birds, even English birds, in their hats—birds such as Goldfinches, Chaffinches, and the like; yes, I have even beheld a Robin there. If this fashion continue it will lead to something like an extermination of some of our prettiest and most innocent songsters. Its effect upon Goldfinches is such that a bird-dealer now gives 2s. 6d. to any boy who brings him one, whereas 6d. used to be the regular price.



Simple carelessness of taking life is in the boy, and some men, who are said to love a gun! You like shooting, young man, do you, and your means do not allow you to be a sportsman? Go, then, and join a volunteer corps and shoot for a prize, but do not harm God's harmless creatures. There is a sacredness as well as a beauty in life, which must not be invaded save for a good cause. You must not kill "all for the pleasure of making a little noise." This low sport should be frowned down upon by all thoughtful people. *Punch*, whose instincts are always healthy, gave, I remember, some years since, a fancy picture of the chairman or first-prizeman of a Sparrow club, and 'twas the very likeness of a snob indeed. Sometimes cruelty is simply the result of ignorance, as in the Sussex gamekeeper, who always shot the Cuckoos because he thought they turned into Hawks in the winter. This good man had clearly no idea of the migration of birds, but had a queer notion of claws to think that the innocently-shaped foot of the Cuckoo could be changed into the talons of the Hawk. Another instance of the cruelty of ignorance came to my knowledge. A gardener used to walk about armed with a club, with which to pound and smash frogs and toads, wholly ignorant that a toad in a cucumber frame is treasured by many gardeners as a true friend. I think nothing more repulsive to kindly human feelings can be imagined than a man going about smashing into pulp harmless and even useful creatures. Victor Hugo has a fine passage descriptive of cruelty to a poor toad that happened to be in a public path:—

"A man who chanced to pass descried the brute,  
And shudd'ring, crush'd its head beneath his foot.  
Then came four schoolboys, cheerful as the sky,  
Giddy with hope and sport, and spirits high;  
Loud, free, and happy; how get through the day,  
Save by tormenting weak things in their way?  
The toad was crawling slowly, seeking shade,  
The children spied it out and shouting ran,  
'Here, let us kill the nasty thing,' they said.  
And since he's ugly hurt him all we can.'  
'The vicious thing, he foams!' the children roar,  
At every blow the froth starts more and more.  
Head crushed, eye hanging, one leg torn away,  
Through grass and briar he forced his wretched way.  
The children, rosy-cheeked and faxen-haired,  
Said 'twas the finest sport they ever shared,  
Talked all at once; at last devised to throw  
A good large stone to give the final blow."

Then comes a poor wretched ass with his heavy cartload. The children watch to see the wheel crush the poor toad, but the poor suffering ass, despite the driver's shouts and blows,

"Stiffened his bleeding muscles 'gainst the load,  
And turned the wheel aside and spared the toad."

The children notice this—

"Then one small hand the stone it held let fall,  
And of those children, one—he tells the story—  
Heard sounding from the great sky's arch of glory,  
A voice that said, 'Be merciful to all!'"

Would that such words could ring in the ear of every child when about to injure or needlessly take the life of any bird or beast.—WILTSHIRE RECTOR.

## EXHIBITORS OF WHITE FOWLS

SHOULD bear in mind the effect of sunlight upon white plumage. Such birds as are designed for the autumn and winter exhibitions should be cooped or penned where they are shielded from the strong glare of the mid-day sun, and where they cannot wallow in any clayey soil. A clean dust bath of sand and ashes is best for health and looks.

The penning should begin with the growth of the feathers after moulting. The yellowish tinge given by a strong light will be found almost impossible to remove after once appearing; and there is no time when the plumage is more susceptible to change of colour than in the early stages of growth, while the feather is yet soft.

The difficulty of cleansing soiled plumage is well known; and with a very little ordinary care and precaution the necessity of this measure may be spared.—(*Pet-Stock Bulletin*.)

## AGRICULTURAL HALL POULTRY SHOW.

*Spanish* commenced the poultry classes (twenty-five entries). The mild weather has undoubtedly conducted in a great measure to the forward condition of the birds. First a pen of fine-grown chickens, but a little coarse in quality. The cock's comb upon close inspection we fancied had been very skilfully sliced at the back, apparently to lighten the weight and keep it perpendicular. This should have deprived him at least of any post of honour. Second (362a) a pen of coarse old birds. We could not understand this award, and thought the Judges must have intended the award for the next pen (363a), a fair pair of chickens, belonging to the same owner. Pen 362 a fine cockerel, and honestly shown, and we should have liked to have seen him in the first position. Quite half a dozen pens that were passed over by the

Judges we thought deserved cards. Pen 342 (Jones) a beautiful pullet, one of the best in the class, with a fair cockerel; pen 341 (Hewes) a cockerel of good quality, but very young; pen 347 and pen 349 good old birds, out of condition, but better than the second-prize pen. We noticed two or three pens in this class with out combs. In common justice it should be understood, if this is to be allowed, then all can exhibit on an equality; but it is most annoying and unfair for an exhibitor to find that he has cast a good-faced bird away through a falling comb, and then find another exhibitor has succeeded in obtaining a prize by lightening the weight of the comb with the scissors.

*Cochins*.—Buffs a good class. First a grand cock, hen fine, but slightly marked on the hackles; second good in colour; third also a fine pair. Pen 422 (Burnell), hen very good, cockerel beautiful in colour, but not well matched. 428 (Procter) a pretty pen, but small. Partridge.—Mrs. Tindal was easily first, hen well pencilled; second, Lady Gwydyr. White.—First (Boissier) an exquisite pen. Pen 449, second rather leggy and wanting in shape; we should have placed Mrs. Tindal's pen before it. Pen 448 (Fowler) a fine hen.

*Brahmas*.—Darks.—First (Mrs. Tindal) a good-coloured cockerel, pullet well pencilled but small. Pen 474 (Lingwood) a grand cock; we considered him the best bird in the Show; his mate was not his equal, but she was a good hen. 456 (Newham & Manby) a well-marked pullet with many good points. Pen 471 (Ansdehl) a fine old cock, not quite over his moult. Lights disappointed us very much. Pen 475 (Lingwood) first, cock badly twisted in the hackle; he reminded us very much of a Pouter Pigeon; in all other points he was the best in the class. Second (Saville), hen a little creamy, otherwise they would have been first. 480 (Petter) a good pair of chickens, but too young for exhibition. Mr. Breeze and Mr. Chawner, jun., exhibited some fair pens.

*Games*.—Reds, first (Martin) a pen of most stylish Brown Reds in beautiful condition; they were deservedly awarded the champion cup. Second (Hassell) a good-colour cockerel; tail a little too perpendicular. The Duckwing and Pile classes were quite up to the standard.

*Any other variety*.—The ordinary classes being very restricted, this class contained an unusual combination. All varieties of Bantams were competing with Polands, Malays, and various breeds of large birds too numerous to mention. The winners deserved their prizes, but the selection was a great question of fancy. Several other pens might have been chosen without giving grounds of complaint.

[We had not received the remainder of our reporter's notes at the time of going to press.—Eds.]

POULTRY.—SPANISH.—1, J. Walker. 2, G. J. Chilcott. 3, J. Pitt. DORKINGS.—Coloured.—1, Viscount Tarnour. 2, J. Coppel. 3, R. Chessman. *vhc*, T. G. Burnell. *Any other variety*.—1, T. G. Burnell. 2, G. E. Cresswell. 3, Hon. Mrs. Colville. *Cochins*.—Buff.—1, R. P. Percival. 2, A. J. Swinell. 3, Lady Gwydyr. *vhc*, H. Tomlinson. Partridge.—1, Mrs. A. Tindal. 2, Lady Gwydyr. 3, E. Tadman. White.—1, R. A. Boissier. 2, S. R. Harris. 3, R. Chase. BRAHMAS.—Dark.—1, Mrs. A. Tindal. 2, H. Lingwood. 3, Rev. J. D. Peake. *vhc*, Newham & Manby. Light.—1, Horace Lingwood. 2, Capt. W. Savile. 3, T. A. Dean. GAME.—Reds.—1, H. E. Martin. 2, T. Hassall. 3, T. Mason. Duckwings.—1, P. Dyson. 2, J. H. Staveley. 3, H. E. Martin. *Any other variety*.—1, H. Mason. 2 and 3, T. Burgess. *Bantams*.—Silver-pencilled.—1, H. Beldon. 2 and 3, J. Webster. *Silver-spangled*.—1, Duke of Sutherland. 2, H. Beldon. 3, J. Fielding. *Gold-pencilled*.—1, W. K. Tickner. 2, Duke of Sutherland. 3, T. Lees. *vhc*, W. Anderson. *Gold-spangled*.—1, J. Long. 2, A. Hyde. 3 and *vhc*, H. Beldon. CREVE-CEURS.—1, J. K. Fowler. 2, S. Vickery. 3, R. Park. HOUDANS.—1, R. B. Wood. 2, S. Thomas. 3, Mrs. Vallance. LEGHORNS.—White.—1, R. F. Fowler. 2, Miss Benham. 3, L. King. Brown.—1, F. A. Green. 2, A. Kitchen. 3, S. L. Bradbury. *Any other variety*.—1, H. Beldon. 2, Lady Gwydyr. 3, T. Lowe. *vhc*, H. Beldon. T. Norwood. DUCKS.—Aylesbury.—1, T. Sear. 2 and 3, J. K. Fowler. Rouen.—1 and 2, W. Evans. 3, H. S. Stott. *vhc*, E. Kendrick. *Any other variety*.—1, J. Walker. 2, G. S. Sainsbury. Extra 2, W. Boucher. 3, G. Horne. Extra 3, S. Brown. *vhc*, H. B. Smith. TURKEYS.—1, Mrs. A. Mayhew. 2, J. Walker. 3, T. Hepburn. GEES.—1, J. Stott. 2, J. K. Fowler. 3, J. Walker. *vhc*, Dr. E. Snell. Hon. Mrs. Colville, H. Beldon, R. Gladstone.

## THE BRISTOL SHOW SCHEDULE.

This year the Bristol schedule has come earlier than usual, and we find its dates arranged for the old Birmingham week. We heartily hope the time gained will bring Mr. Cambridge increased support. The old classes are much as usual, but we find some new classes in addition—namely, two for Black Cochins, two for White-crested Black Poles, one for Silkies, &c.; and above all we are especially glad to see the variety Bantam classes better arranged. The entry fees remain the same, and in these days of increasing time rather than diminishing them this is something to be thankful for. The poultry Judges are Messrs. Hewitt, Teebay, and J. H. Smith; the latter gentleman has been especially engaged for the Game and the Game Bantams. Mr. Dixon was invited to help, but could not come. Mr. Cambridge writes to us to say he is quite prepared to obtain the services of a fourth poultry Judge if the entries necessitate the same.

In Pigeons the point cups are no more. We can imagine great rejoicing in the county and field pastures. The Judges are Mr. P. H. Jones and Mr. Charlton. In other respects the Pigeon classification is good, and the prizes liberal. There is a champion cup of £10 value for the best pen in the Show. The

entries close on the 7th of November, and we hope all will enter well.—W.

### A RETROSPECT.

TO-NIGHT I look back over half a century and find myself a romping "wee callan" (a little boy), jumping amongst my father's hives of bees, and courageously turning them up to see how their combs were being filled and when they would be ready for swarming. I was at an early age drawn into the mysteries of bee-keeping. Two generations of intelligent and successful bee-masters in his district have well-nigh passed away since my juvenile days. I owe much to the past and those who were before me, for I had a pretty wide and comprehensive experience amongst bees before I was fifteen years of age. In making this statement there is no boasting; the circumstances and surroundings of my early days were favourable. Though it is more than forty years since I left the home of my youth, I have had something to do more or less with bees during these years. I have seen bee-keeping in Middlesex, Hertfordshire, Oxfordshire, Yorkshire, Lancashire, and Cheshire, often in its most ancient phase, and sometimes in its most modern one. For more than twenty years after I came to England I could see no signs of advancement and success. The books that fell from the press had comparatively little weight or influence; but now I am pleased to know that things have taken a turn, that bee-keeping is moving, in many places advancing; and I earnestly hope and confidently expect that it will speedily become an uplifting power in many homes of the rural and working community. After this preamble I will review the season of 1876 from an apian point of view.

In Cheshire the season was very unfavourable until the middle of June. It could hardly be more unfavourable both for honey-gathering and breeding. Many hives all over the county and elsewhere died from their want of bees. From all I could hear I opine that more than half of the hives in England perished before brood was hatched in them. The autumn of 1875 did not encourage the bees to hatch brood late, hence the span of their life was reached this spring before young bees were reared to take their places. Some may have died from want of food, for the weather was so unfavourable in March, April, and May that bees had not a chance in this neighbourhood of gathering honey. For about the first time in my life I was discouraged and thoroughly tired of feeding my bees. I gave it up for a time, very much to their injury and my loss. About the middle of June the weather became more favourable for honey-gathering, and the bees began to prosper. They collected honey rapidly, filled their hives with bees, and readily swarmed, though a month later than their usual time of swarming. Stock hives generally were heavy at the time of swarming, and the earliest swarms did pretty well for a while. The last half of July and first half of August were unfavourable for bees in this part of the country. The bees that were taken to the moors had a few fine days from about the 12th to the 20th of August, but then the heather was not sufficiently in blossom and did not yield much honey. The best swarms in this neighbourhood rose to 70 and 80 lbs. each, one or two to 90 lbs., but the great bulk of swarms never approached that weight, and almost all second swarms and turn-outs were failures. The honey weather did not last a month altogether in this locality. Those who managed their bees on the non-swarming system have been most successful here, probably elsewhere as well, for in late and short seasons swarms are placed at a disadvantage, and have an uphill battle to fight. This year the weather became unpropitious before the hives were filled with combs.

From the East Riding of Yorkshire and other parts of England I hear that good harvests of honey have been obtained. In the south of England some excellent supers of honeycomb were filled. The products exhibited at the Bee-keepers' Association fête, held this year at the Alexandra Palace, were highly satisfactory. At the Dundee Show some exhibitors appeared in good form. Their productions would tend to give a healthy impulse to bee-keeping in that part of Scotland. The "RENFREWSHIRE BEE-KEEPER" has favoured the readers of this Journal with a statement of his astonishing success with a Stewarton hive this year. Mr. J. E. Briscoe of Albrighton has been equally successful with a Stewarton hive and Italian bees, as may be seen in last week's Journal. My correspondent at Carlisle, Mr. G. Henshilwood, writes that "the spring here was cold and backward for bees. Indeed, they lost all the fruit blossoms in spring, and that made them late in swarming; but towards the end of June and during the month of July we had some very warm days now and again, when the bees gathered honey very fast. An old stock that stood in my own garden was never above 17 lbs. weight till the end of June, when I took a swarm from it. Two weeks after this it weighed 56 lbs. Some of the first swarms at the end of the clover season weighed from 50 to 90 lbs. each. One at Crossford, belonging to Mr. Cadzow, rose to 105 lbs., but I was told that two swarms united in swarming and were hived together. On the moors the weather broke before the heather was well in blossom. The average gain per hive on the moors

would be from 20 to 30 lbs. Many hives came home from the moors above 100 lbs. each. One at Crossford was 150 lbs. You see the season has not been a bad one upon the whole; indeed, I may say that the bees had a better touch on the clover this year than they ever had before since I came to Carlisle, twenty years ago. Our hives were all too heavy for keeping, so we took the honey from them, united the swarms in pairs, and fed them into stocks."

From the neighbourhood of New Pitsligo, Aberdeenshire, my friend Mr. George Campbell writes "that the spring was most unfavourable until the 22nd of June, when the summer weather set in and remained favourable for our favourites till the 20th of August, when they were entirely shut up for the season. My first swarm was obtained on the 29th of June, which, being sold previously, was sent off by rail the same night. My next swarm came off on the 2nd of July, and weighed 7½ lbs. (bees alone), from the stock that yielded a swarm of 9 lbs. on the 9th of June last year. The swarm this year rose to 103 lbs. on the 21st of August, having filled a hive 20 inches by 16 inches. A cast from the same hive eleven days later rose to 57 lbs. This is my best result from one hive this year. I had three stocks over 100 lbs. each, the heaviest being 114 lbs.; but they were late in swarming. As young princesses were given to them twenty-four hours after swarming they gave no casts. Five of my stocks I did not intend to swarm were working in supers, but, as if by mutual consent, they all swarmed on the 17th of July, and three of the swarms alighted as one and were hived in a 20-inch-by-16 skep. The bees alone weighed 16½ lbs. and filled the hive. A 6-inch wooden eke was given to this hive, and was filled with combs in fourteen days. I then put on a half-filled super, which they filled in three days, putting 3 lbs. a-day into it. I put another half-filled super on the top of the first, as it was not all sealed though quite full, but instead of finishing it the bees took down all the honey in it. The five stocks all gave casts, but as the season came abruptly to an end they did no good. Their combs will answer for starts to swarms next year. Throughout this district first swarms range from 36 to 80 lbs. only, owing to the lateness of swarming. Second swarms are generally worthless. I have heard of only one swarm beside my own that reached 100 lbs., so I conclude this season has not been equal to 1874." My friend Mr. Shearer is gathering up the results of the Huntley district of Aberdeenshire.—A. PETTIGREW.

### BAR VERSUS STRAW HIVES.

I SHOULD be sorry if the supers exhibited by me at the Alexandra Palace, containing 131½ lbs. of honey, the product of one hive, were looked upon by the advocates of straw skeps as a proof of "what can be done with them when compared with bar-frame hives;" or that the splendid supers from Mr. Cowan's bar-frame hive should be compared with mine as the products of "wood versus straw." Let me at once say that in my opinion—an opinion by no means hastily formed—the advantages gained by the use of bar-frame hives are so great that straw skeps cannot be compared with them. I am as rapidly as possible transferring all my bees to the former hives; and those bar-frame hives which I had in use this summer gave me in proportion a greater weight of honey with half the trouble and annoyance than did closed straw hives. From swarms of the current year, placed in hives with alternate sheets of empty comb and guides of wax, in which five large combs had therefore to be built before supers had a chance of being entered, in three instances I took off two of Lee's supers and a box of sections, the total weight from each hive being over 60 lbs. Into a bar-frame hive which I made with double glass walls I put a heavy swarm May 30th. Each of the ten frames had a plain guide sheet of wax an inch deep. In thirty days from the date of swarming this hive was filled from end to end with combs, all full of brood or sealed and unsealed honey. On the 1st of July I placed a box of sections with guides over this stock, and July 15th a bell-glass by its side. At the close of the honey season I took off the bell-glass and sections well filled and sealed, total weight 42 lbs., leaving the stock hive with 50 lbs. With Abbott's "Little Wonder" I extracted from it close upon 20 lbs. of the purest liquid honey, and returned the combs, excepting some corner pieces which broke away. This hive and all my other frame hives are at this date filled with young bees, the surest promise of a good harvest next spring, weather permitting.

My large Pettigrew skeps furnished me with powerful swarms, with which my bar-frame hives which I made during last winter were stocked. Two or three of these large straw hives reached the weight of from 70 to 90 lbs. But what an undertaking it was to get out the best honey! Most of it was stored at the top of the hives. Perhaps about 15 lbs. of good comb could be cut from the sides of each hive, but to get at the bulk of the honey the whole of the brood comb had to be cut out. What a waste would have been here if I had not had empty frames at hand into which I patched the dark pieces, and thus from two or three skeps took a quantity of run honey and stocked a bar-frame hive, into which the bees were thrown. Now, had

all those beautiful combs been in frames, the extractor would have relieved the hive of its superfluous weight, and the combs and bees would have been left otherwise undisturbed as promising stocks for the work of next spring. There is no doubt whatever that great weights of honey may be obtained from large skeps, and those who have changed their small for large skeps have made a great stride in the right direction; but those who have taken another step and changed their large skeps for bar-frame hives are much nearer the goal of success.—P. H. PHILLIPS.

### CAPS OF CELLS.

I AM glad to see from the courteous letter from Mr. Pettigrew on page 337 that he no longer thinks bees secrete wax specially to cap brood cells, and that therefore the only point on which we differ is—whether they draw out the edges of the cells or cut down old comb for the purpose of forming caps. As I have never noticed the wholesale tearing down of cells, which, according to the last of these theories, would be necessary during extensive breeding, I incline to the first opinion as expressed in my last letter, especially after an experiment with worker comb which I made this year.

I fitted into a frame a sheet of artificial worker-comb foundation of a very peculiar yellow colour, and found that when the bees had carried out the foundation in all its length there was just sufficient wax to form worker cells with clearly defined rims. After the queen had duly furnished the cells with eggs, and the time was come for the grubs to be covered in, I discovered that the caps were all formed of the same coloured wax as the foundation I had given to the bees. Now, as I know there was no other wax in the hive of that colour (they did not cut any of the sheet down), I do not see how they could have done otherwise than draw out the edges of the cells.

The only solution of the matter that I can suggest is that when a grub has evacuated its cell some of the young bees clean the latter out (of course leaving the well-known skin in), and then strengthen the edge of the cell. The rim is often a trifle lighter in colour, and this strengthening would be more apparent but that so little material is used, that being well incorporated with the old wax it cannot but somewhat agree in colour with it. May it not also be dirtied by the thousands of feet passing constantly over it? This is only a suggestion, and I know it has several weak points; but can Mr. Pettigrew bring forward a more plausible theory, giving some proofs of its correctness?

I have not experimented with drone comb, for there is so little in my hives, as I cut most of it out, but should think that a theory applying to one sort would be applicable to the other also. The sides of a queen cell, when the latter is ready to be capped, contain so much material that I fancy bees could easily find sufficient to form several caps.—J. P. J.

### THIS YEAR'S HONEY SEASON.

Now that the season of 1876 is over I think it will afford pleasure to the readers of our Journal if bee-keepers will send to you their experience of this season, so that we who are admirers of our little pets may compare notes as to the best kind of hive to give the largest amount of honey, also the best means of securing the beautiful glasses which are from time to time being exhibited at our shows. I may also say that bee-keeping is becoming a mania, if I may use the expression, for in this part of the county (South Lancashire) I am continually being asked to go over to see this gentleman's and that lady's garden to see if the place is favourable for establishing an apiary, and I can only account for it by the fact that several local agricultural societies in Lancashire and Cheshire give prizes for bees and honey, as do some of the horticultural societies; but they want to see glass hives as well as straw, for they say they are more attractive and give the young apirians a taste for bee-keeping.

I sent my glass hives to the Winter Gardens at Southport last month for three weeks; they took nearly £20, and the charge was 1d. each to see them. They were placed in the conservatory. Since then I have had applications from other societies to let them have hives next year.

I began this spring with eight hives, having lost five during the winter (gross neglect), and thought I should have lost them all, the spring being so late and cold; but at last fine weather came, and the bees took advantage of it and lost no time in storing the sweets. My first swarm came out June 20th, which I put into a 16-inch Pettigrew hive. After that I had several swarms up to July 10th. My last went away; I saw it go, but could not get the bees down.

We have had a good white clover season here, and some good glasses of honey, but not large, owing to the large hives not being generally used. I took ten hives to the heather. The first ten days the weather was splendid, but the heather was not fully in flower, it being late, but the bees did well until the weather broke and the wet set in. If it had been fine for three weeks longer it would have been the best season I remember,

for there was a great profusion of flowers. One of Pettigrew's hives (a swarm) came home 80 lbs., besides giving a super 20 lbs. I had several small supers as well as the one referred to above, and upon the whole they have done well, each hive being able to spare 10 lbs. of honey. My stocks consist of one ten-bar Woodbury straw hive, two nine-bar Woodbury, one of Nutt's hives which filled me one of its side boxes, one of Huber's book or leaf hives, the rest straw, with the exception of my glass hives. I have all the bees snug for the winter with plenty of food, and hope next year to increase my stocks to about thirty.

I must admit that if we want large stores of honey and early swarms we must use large hives, for the prolific properties of the queen are not generally known amongst bee-keepers.—SOUTH LANCASHIRE BEE-KEEPER.

### OUR LETTER BOX.

FLOOR OF FOWL HOUSE (*Lu Shaw*).—Do not pave it, but have gravel covered with 3 inches in depth of sand, from which you can rake the dung as needful. The soft flooring is preservative of the fowls' feet.

HENS EATING EGGS (*K. B.*).—Your only remedy is to take the egg as soon as laid, and to leave porcelain nest eggs.

FOWLS AT EGHAM (*E. T.*).—The nearest show to you will be at Dorking, December 7th.

CRUDE AND PERFECT HONEY.—Mr. Pettigrew writes to us that he has answered "B. & W.'s" questions on the above subject repeatedly, and declines replying to his letter in last week's Journal.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Barom. ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1876.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Oct.										
We. 18	29.631	55.3	55.2	N.E.	54.0	64.7	50.0	75.3	42.2	—
Th. 19	29.763	54.3	54.3	N.	54.0	67.7	50.1	101.3	41.5	—
Fr. 20	30.100	54.5	53.7	N.	54.5	58.7	52.4	60.0	49.2	—
Sat. 21	30.085	48.4	45.4	N.W.	53.6	53.6	45.8	89.9	44.5	—
Sun. 22	30.87	47.3	43.8	N.E.	51.2	49.0	42.5	56.6	36.8	0.020
Mo. 23	30.078	44.8	44.7	N.N.E.	50.3	47.1	44.5	47.3	43.1	0.138
Tu. 24	30.135	45.5	44.0	N.	50.0	49.3	43.9	54.0	44.0	—
Means.	29.985	50.0	48.6		52.5	55.7	47.0	69.6	43.0	0.038

### REMARKS.

18th.—Warm, rather misty day, sunny at intervals, but damp evening.

19th.—Very foggy morning, but warm beautiful day.

20th.—Damp dull day; cooler towards evening.

21st.—Much cooler, a fine bright day.

22nd.—Dull cold morning; slight rain at times during the day and a wet night.

23rd.—Cold dull day throughout.

24th.—Dull all day, but without rain.

Although the temperature has fallen nearly 11° during the last fortnight, it still remains slightly above the average.—G. J. SYMONS.

### COVENT GARDEN MARKET.—OCTOBER 25.

A SHORT supply and slack business has been the characteristic of our market during the past week, scarcely any alteration taking place in prices. Pears and late Apples are in good demand. Kent Cobs are readily cleared at an advance.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	6 to 5	0	0	0
Apricots.....	dozen	0	0	0	0
Chestnuts.....	bushel	0	0	0	0
Currants.....	1 sieve	0	0	0	0
Black.....	do.	0	0	0	0
Figs.....	dozen	0	0	0	0
Filberts.....	lb.	0	6	1	0
Cobs.....	lb.	0	10	1	8
Gooseberries.....	quart	0	0	0	0
Grapes, hothouse.....	lb.	0	6	0	0
Lemons.....	100 lb	12	0	18	0
Melons.....	each	2	0	5	0
Nectarines.....	dozen	0	4	0	0
Oranges.....	100	0	0	24	0
Peaches.....	dozen	0	0	12	0
Pears, kitchen.....	dozen	1	0	2	0
Pine Apples.....	dozen	2	0	6	0
Plums.....	1 sieve	0	0	0	0
Quinces.....	bushel	0	0	0	0
Raspberries.....	lb.	0	0	0	0
Strawberries.....	lb.	0	0	0	0
Walnuts.....	bushel	5	0	8	0
ditto.....	100	1	5	2	6

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	4	0	6	0
Asparagus.....	100	0	0	0	0
French.....	bundle	0	0	0	0
Beans, Kidney.....	1 lb.	0	3	0	6
Beet, Red.....	dozen	1	6	3	0
Broccoli.....	dozen	9	1	6	0
Brussels Sprouts.....	1 sieve	3	0	4	0
Cabbage.....	dozen	1	0	2	0
Carrots.....	bunch	0	4	0	8
Capsicums.....	1 lb	1	6	2	0
Cauliflower.....	dozen	3	0	6	0
Celery.....	bundle	1	6	2	0
Coleworts.....	doz. bunches	2	0	4	0
Cucumbers.....	each	0	2	0	9
Endive.....	dozen	1	0	2	0
Fennel.....	bunch	0	8	0	0
Garlic.....	lb.	0	6	0	0
Herbs.....	bunch	0	8	0	0
Horseradish.....	bundle	4	0	0	0
Lettuce.....	dozen	6	2	0	0
Leeks.....	bunch	0	4	0	0
Mushrooms.....	pottle	0	6	1	6
Mustard & Cress.....	punnet	0	2	0	0
Onions.....	bushel	2	0	5	0
Pickling.....	quart	0	4	0	0
Parsley.....	doz. bunches	2	0	4	0
Parsnips.....	dozen	1	0	0	0
Peas.....	quart	0	0	0	0
Potatoes.....	bushel	2	6	4	6
Kidney.....	do.	3	0	5	0
Radishes.....	doz. bunches	1	0	1	6
Rhubarb.....	bundle	0	3	0	0
Salsafy.....	bundle	0	9	1	0
Scorzonera.....	dozen	1	0	0	0
Seakale.....	basket	2	6	5	6
Shallots.....	lb.	0	3	0	0
Spinach.....	bushel	1	6	2	0
Tomatoes.....	1 sieve	4	0	5	0
Turnips.....	bunch	0	4	0	6
Vegetable Marrows.....	0	2	0	6	0

## WEEKLY CALENDAR.

Day of Month.		Day of Week.	NOVEMBER 2—8, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
Day.		Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.			
2	Th	Liverpool Chrysanthemum Show. Kämpfer died.																	907
3	F	Inner Temple Chrysanthemum Show. [1716.																	908
4	S																		909
5	Sun	21 SUNDAY AFTER TRINITY.																	910
6	M																		911
7	Tu																		912
8	W	Royal Horticultural Society—Fruit and Floral Com- mittee 11 A.M.																	913

From observations taken near London during forty-three years, the average day temperature of the week is 53.8°; and its night temperature 36.4°.

## ABOUT FIGS.



**D**ID you ever see a Fig blossom?" asked a gentleman well learned in theological, archaeological, and most other logical matters. "Oh, yes," I replied, "thousands." As he was evidently interested in the subject and failed to find the Fig blossom himself, I supplied him with specimens and such scanty information as I was in possession of. He said that he had looked in vain in Miller's "Gardeners' Dictionary"

and various other works for particulars and explanations on the subject. I hinted that it might not be understood in Miller's time. "It was understood long before Miller's time," said he, "for the subject is mentioned in the Bible, and some opponents of the sacred book say that the prophet was wrong, as the Fig does not blossom at all; but," continued he, "it seems the prophet was right."

I have never gone very deeply into the subject, although it is intensely interesting; but to those of your readers who would like to explore for themselves and discover the hidden beauties of the Fig, I will give a few hints which may serve to put them on the right track. I do not know the number of blossoms an average-sized Fig tree bears to within a few thousands, but if anyone will take the trouble to count the number of seeds a ripe Fig contains he will arrive at a tolerably correct idea of the quantity of blossoms necessary to produce a perfect fruit, and the multiplication table will furnish the rest.

The fruits which will ripen on outdoor Fig trees in this country next year are already visible in the axil between the leaf and the stem of this season's growth, and those which do not grow larger than a Radish seed this autumn will, if the wood is sufficiently ripe, in all probability produce perfect fruits next August or September. Those which are larger than a Radish seed will not survive the winter unless they enjoy a sufficiently high temperature to keep them growing—probably an average of 65°; and the same may be said of those formed on wood which is not thoroughly ripened, in which case the wood will be killed as well as the embryo fruit; but fruit of the size of a Radish seed situated on wood which is well ripened is at least as hardy as the fruit buds on an Apple tree.

The only difficulty about outdoor Fig-culture is to have the wood ripe; this difficulty overcome all the rest is of the simplest nature possible, and I hope to see this fruit more extensively grown.

My situation is not an enviable one for fruit-culture, the soil being very heavy, with a cold clay subsoil; nevertheless, for several years now I have been able to rely on a crop of Figs, although I cannot always rely on one of Apples and Pears.

There are many situations where Figs grow naturally without any special culture; the most likely places I believe are those on chalk or gravel; but where the subsoil is heavy and the atmosphere damp special culture is necessary. The special culture which answers here is

annual root-pruning and summer thinning of shoots. At the end of September a trench is dug out about a yard from the wall, the roots are all shortened-back with a knife, and the trench is refilled with soil as poor and open as is possible to obtain. This prevents the roots, and ultimately the shoots, growing too grossly and partially aerates the soil which contains the principal roots.

The pruning of the branches merely consists of cutting those clean out which are not required, leaving the rest at full length. This is principally done as soon as the fruit is all, or nearly all, gathered, when the trees have finished their season's growth, but still retain their leaves. Should the growth, however, become too crowded it may be partially thinned at any time during summer, but never in winter or spring, as the wounds do not heal so quickly when the plants are destitute of foliage. But I had forgotten about the blossom.

I have said the embryo fruit is already formed for next year; the embryo blossom may be formed too for aught I know, but at any rate it cannot be discerned with the naked eye. Next spring, probably about the end of May, when the fruit is about the size of a small Bean cut one of the small fruit lengthwise through the centre, and the blossoms yet unexpanded may be seen very clearly by hundreds, each one mounted on a separate peduncle of considerable length. Well, if these are the blossoms how is fertilisation to take place where not a breath of air can reach? Examine the end of the fruit farthest from the stalk and a hollow will be seen, but at present it is securely covered by small imbricated leaf-like organs, which protect the tender parts till such time as they become perfectly formed, when the door is opened and air is freely admitted to the centre of the fruit. This, I believe, is for the purpose of fertilisation, which takes place when the fruit is grown, perhaps, to a third of its size. The young organs are then extremely tender, and if, from the weather being unfavourable or the organs themselves being imperfect, fertilisation does not take place, the fruit grows to a certain size, when it, as well as the perfect fruits, cease to swell perceptibly for a time (this, in the case of the perfect fruits, is when they are forming the seeds), and then, instead of starting afresh, turns yellow and falls off.

The structure of the Fig at the time the blossom is coming to perfection is exceedingly beautiful, even when viewed through a common magnifying glass. A microscope would probably reveal beauties which I do not dream of.

The best proved sort for general outdoor culture is Brown Turkey; but I believe White Marseilles will do very well.—WILLIAM TAYLOR.

## CULTURE OF THE TULIP.

WE seldom read anything now in the gardening papers on the Tulip, but depend upon it this neglect is only for a season; the time is not far distant when the Tulip will be held in higher estimation than it is now. It is not many years ago when the late Mr. Groom of Walworth



catalogued three roots at one hundred guineas each, and many at ten and fifty guineas each. It is not to be expected that such prices will be given for single roots of Tulips again, nor is it desirable either in the interest of the trade or private growers that it should be so. A point that ought not to be overlooked is the fact that Tulips flower at a time when the flower garden is in a transition state, the spring bedding is over or nearly so, and the beds are being again dug and planted for the season. While this sort of work is going on the proprietor of a bed of Tulips can be enjoying the rich and varied colouring of the flowers, and there is such a wealth of variety in the white and yellow grounds, with rose, cherry, violet, purple, chocolate brown, and nearly black flame or feather, as cannot be found in any other flowers. Further, there is very little trouble with them; the beds can be made up and planted at a time when work is not pressing, and they require but little attention afterwards. Fashion has had much to do with the decline of the Tulip. First of all was the rage for the geometrically arranged flower gardens. Lawns were cut and tortured into all manner of fantastic shapes to form beds of various patterns and elaborate designs. Princely and ducal mansions have their magnificent flower gardens, and the owner of a small grass plot 10 feet square seeks to imitate them by having beds of Pelargoniums, Verbenas, edgings of Feverfew, and Chickweeds, lines of Beet, and curiously inlaid beds of Houseleeks, Sedums, and what not. The spring bedding is now also a further strain on the energies of the sorely-tried gardener. In my boyish days every garden had its bed of show Pansies; but there are no Pansies, no Heartsease now. They are all Violas, and you must not admire the beauty of a single flower, you must look at the mass. The first question is, What sort of bed does it make? It must be a mass of yellow, indigo, black, or white; it must be a decided colour. That is the point. White and yellow-ground Heartseases will not do. Now, far be it from me to say a single word to discourage any style of gardening; it is all beautiful in its place, but it is a great pity that the rage for gaudy colours and large masses of flowers should drive such noble flowers as the Tulip out of cultivation.

Another reason that many persons do not grow Tulips is that horticultural societies do not encourage them. Now, all the great metropolitan horticultural societies have exhibitions just at the time when the Tulip is in its glory—that is, from the middle to the end of May, but none of them think it worth while to devote a class in the schedule to Tulips. This is not quite as it should be. Societies such as the Royal Horticultural and Royal Botanic should not offer prizes for flowers merely because they are popular, but more because of their intrinsic merit. Offering prizes for flowers does not make them any better, but it certainly increases the interest one takes in them. Note, for instance, the Carnation and Picotee. What a fine bank of flowers was shown at South Kensington this year! and I know at least three more growers in the neighbourhood of London who intend entering on their culture this year; they would not have thought of it had there not been prizes at the exhibitions. The Metropolitan Floral Society had a noble work to perform, but owing to some cause or other its members do not pull well together, and nothing has been done during the past year. There is a worthy band of true-hearted florists in the north, and they are willing to fraternise with their brethren in the south. When visiting amongst them only last August I found that all the principal Auricula-growers were willing to hold the National Auricula Exhibition in London next year. That is giving us the right hand of fellowship with a will, and it is for the southern growers to make all the arrangements and give them a most hearty welcome. It is incorrect to say that a date cannot be arranged to suit the northern and southern growers, for I find by referring to the Journal reports that the "National" for two years in succession was held on the last Tuesday in April, and the Metropolitan Floral Society held theirs both seasons on the following Wednesday. But this is a subject which must be entered into more fully on another occasion.

Yet it must not be supposed that the Tulip has gone out of cultivation altogether. There are many growers and there is also a National Society for its encouragement, and an exhibition is held every year in the north. Mr. C. Turner of Slough still grows a large collection for the purpose of trade, and his beds when in full flower are a splendid sight. Let us hope that a bed of Tulips may be soon seen in many gardens, even if the bedding-out should be curtailed to make room for it. It ought also to be known that when the Tulip bulbs are

dug up there is time for a bed of Asters, Stocks, or even bedding plants on the same ground.

As it is now time to prepare the beds and to plant-out the Tulip bulbs a few remarks may be useful to some readers of this Journal. I was taught at school that the Tulip "asketh a rich soil and the careful hand of the gardener." A rich soil is provided by trenching the ground to the depth of at least 2 feet and working-in plenty of rich manure. But to grow the Tulip well the bulbs ought not to come in contact with ordinary garden soil nor with the manure. Some sandy maiden loam should be placed around the bulbs, and they must be planted according to method.

The Tulip is divided into three classes, each of which is subdivided into two—namely, Bizarres, Byblamens, and Rose. "When the stripes of colour descend from the top edges of the petals two-thirds of the way down the middle towards the bottom" the flowers are *flamed*. "When the colouring is finely pencilled round the margin of the petals" they are *feathered*: the ground colour must be either pure white or yellow. In planting the bed the colours and heights must be judiciously arranged. There ought to be seven rows in a bed, and planted 9 inches apart in the following manner, the centre row being the tallest:—

1	2	3	4	5	6	7	8	9	10
Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose
Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.
Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.
Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose
Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.
Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.
Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose	Byb.	Biz.	Rose

The bulbs when planted should be about 3 inches below the surface, and it is sometimes desirable to place a little river sand around them. To preserve the Tulip bloom for as long a period as possible, a canvas awning must be erected over the beds to preserve the flowers from frosts and dashing rains. The varieties of the Tulip are very numerous, and but little has been done during the last few years in the way of introducing new sorts. Nearly all the varieties can be obtained at a cheap rate. The following are superior sorts:—

*Bizarres*: Caliph (Gibbons), Dr. Horner (Groom), Duke of Devonshire (Dickson), George Hayward (Lawrence), Glory of Abingdon (Pitman), Henry Groom (Groom), Everard (Bowler), King (Willison), Mr. F. Perkins (Groom), Dr. Hardy (Storer), Marquis of Bristol (Groom), Lord Raglan (Groom), Pactolus (Headly), Polyphemus (Lawrence), J. R. Scrivener (Lawrence), Sir J. Paxton (Willison), Owen Glendower (Sanders), Vivid (Sanders), Uncle Tom (Willison), Sphynx (Sanders).

*Byblamens*: Adonis (Headly), Blomart, or Mrs. Siddon's Claude (Strong), Clara (Storer), Chancellor (Battersby), Duchess of Cambridge (Groom), Duchess of Sutherland (Walker), Gem of Gems (Willison), John Kemble (Goldham), Lord Denman (Abbott), Maid of Orleans (Gibbon), Nora Creina (Lyde), Queen (Rutley), Queen of the North (Hepworth), Rachel Rutish (Rutley), Victoria Regina (Groom), Violet (Alexander).

*Roses*: Aglaia (Lawrence), Arlette (Dixon), Baron Girsdorff Camuse de Craix, Duchess of Sutherland (Gibbons), Fanny Ellsler (Goldham), Gem (Goldham), Heroine, Kate Connor, and Lady Stanley (Gibbon), Maid of Falsaise (Dixon), Mary Headly (Headly), Mountain Sylph (Headly), Magnificent (Hayward), Naomi (Headly), Rose Camuse, Rose Celestial (Barlow), Sarah Headly (Headly), Triumph Royal, and Vicar of Radford.

Some of the leading exhibition flowers shown at Manchester are—*Bizarres*: George Hayward, Masterpiece, Ajax, Demosthenes, and Sir J. Paxton. *Byblamens*: Adonis, Violet Aimable, Talisman, Mr. Pickerell, Duchess of Sutherland, and Lord Denison. Amongst *Roses* the best are Industry, Mabel, Mrs. Lea, Aglaia, Triumph Royal, La Van Deeken, Mrs. Lomax, Lady Sefton, and Lady Catherine Gordon.—J. DOUGLAS.

### EARLY APPLES.

In writing this short note I do not propose to offer any opinion of the sorts which have been recently named in your columns, but to mention an early Apple which only requires to be known to be appreciated. It is "Early Joe," an Apple which, according to Dr. Hogg, is of American origin. I procured a bush tree of it on the Paradise stock for trial some years ago from Messrs. Rivers of Sawbridgeworth, and it has fruited abundantly with me every year. The fruit is very handsome, a true dessert Apple in size, form, and quality. It does not keep long, and like most summer Apples it is best eaten off the tree. I observe that in the "Fruit Manual" it

is described as "considerably resembling Devonshire Quarrenden in shape, size, and colour." As grown here the two have no resemblance to each other excepting probably in size, Devonshire Quarrenden being rather a shabby unpromising-looking Apple, while Early Joe is quite the reverse. It is hardy, and ripens perfectly on bushes here, and I should say the climate must be a very late one where Early Joe requires a wall.—D. D. A., *Forfarshire*.

## THE ROSE ELECTION—THE BATTLE OF THE STOCKS.

In suggesting this addition to the Rose election I had no idea that we should be able to settle the knotty question of the best stock for Roses, for as Mr. H. Merryweather remarked in his reply, "That would be as difficult as to settle a knotty point between half a dozen different religionists." Mr. Merryweather further remarks that the question of stocks is in a great degree a question of locality, and that certain soils require certain stocks for success. Our stocks, something like old Sam Weller's, "fluctuate" according to the ideas of the different growers, and are moulded in some fashion by their soil. Certain opinions seemed already tolerably fixed—that the Briar did not succeed well in poor light soil, whilst the Manetti gave better results in such situations. On the other hand, Tea, Noisette, and Bourbon Roses appeared to like the Briar better than the Manetti, whilst most of the Hybrid Perpetuals would prefer the Manetti—the summer Roses in my opinion declaring that it was "six of one and half a dozen of the other." On all hands it seemed agreed that the Manetti was not suitable for standards. Perhaps to all these propositions there are exceptions, even to the last.

In days gone by I have given in my adhesion to the Manetti as the most serviceable stock for general purposes. I must confess I am still its champion. Some few years back there was, I think, no question that the Manetti would have gained the vote, but the introduction of the seedling Briar and the marvellously successful results that Roses grown on this stock have shown in Mr. G. Prince's hands, has made the advocates of the Briar still more enthusiastic, whilst there are growers, not a few, who contend that even the seedling Briar is eclipsed by selected Briar cuttings.

No one who has looked at the seedling Briar plants can deny that there is a vigour about them peculiarly their own; and the blooms that have come from the Oxford growers have shown in the exhibition tent a corresponding amount of stamina. It may not perhaps be easy to decide who first attempted the seedling Briar as a stock. Very many years ago old Tom Cole of the Wellow Rosery near Bath, a place which the railway has I fear demolished, remarked to me, "If you want good stocks that will not throw-up suckers, sow the Rose seeds and bud below the radicles." He evidently had tried the plan. Mr. Tapner in his reply on this subject says, "Thirty-six years ago I raised seedling Briars, and found the Roses did well on them." One wonders if the blooms were anything like those of Mr. Prince's that the practice apparently went out.

The replies received on the question of stocks resolve themselves into several classes. Amongst these a large number give generally the answers that I have perhaps imperfectly stated above as acknowledged data. For instance, the Rev. Alan Cheales, Messrs. Burrell, Mayo, M. L. Davis, Jessop, Wooten, Tapner, and B. R. Cant consider the Manetti best for Hybrid Perpetuals, and the Briar for Teas and Noisettes; some amongst these also noting the difference in soils as suitable to one or other of these stocks. Then the Rev. H. Dombain, with Messrs. Smallbones, H. Davis, Berrington, and W. Curtis consider both these stocks very good, Mr. Smallbones leaning towards the Briar and Messrs. Dombain and Berrington towards Manetti, Mr. Curtis adding that he prefers the prepared Briar cuttings to the seedling Briar. Another division, including Captains Christy and Rochfort, Messrs. Mawley, Atkinson, Scott, John Turth, G. Prince, and Corp, vote more or less decidedly for the Briar in some shape, the majority naming the seedling Briar; Mr. Scott preferring the prepared cutting even to this, and Mr. Atkinson remarks that it depends somewhat on the situation. On the other hand, whilst admitting the preference of Teas for the Briar, the Manetti is supported as a general stock by the Revs. C. P. Peach and Camm, Messrs. Robson, Chater, Walters, Ewing, H. May, Davison, and the returning officer; Mr. Ewing remarking that the Manetti

has more merits than any other stock, whilst Mr. Peach adds, "Under no circumstances the standard Briar; the more I see of them the less I like them, and I hope the day is not far distant when standard Rose trees will be things of the past. Every dog has its day, and the Dog Rose as a standard has had its day."

In this verdict of Mr. Peach's I most heartily coincide. I determined years ago never to plant another standard Briar; relenting, I tried them again, and again I arrived at the same conclusion. I see them in other gardens where the Rose is not so much an object of consideration, and there I see these dead standards make a convenient pole for the *Convolvulus*. Much as I admire the latter, what a fall was there! What can be more horrible to a Rose enthusiast than a pole more or less, and generally more than less, covered with lichen, with a head that diminishes yearly in size, but in its own simplicity attempts to make ample amends for this by growing out thoroughly at the bottom. Fired with the great results obtained by Mr. Prince, and thanks to his kindness in sending me some seedling Briars, I thought to myself, Here is an end to my old favourite the Manetti; but though not averse to the seedling Briar stock, if I must vote I must again revert to my old favourite, believing that for general purposes it is the most serviceable and manageable stock. I grant all the splendour of the seedling Briar roots, which are beautiful, and account for the vigour of the plants as compared with the mopsticks that so frequently have nothing worthy the name of roots; but I contend that budding the seedling Briar is a far more difficult and less successful affair than performing the same operation on the Manetti. The seedling Briar root-stem is often anything but straight—it is as gnarled as the giant Oak of the forest, though only a seedling, and the result is, in my clumsy manipulation, deaths many! a pitiful array of plants that the following season are still only seedling Briars. Again, owing doubtless to the same cause, I have not found that absence of suckers which I expected. There is an irrepressibility about the Briar that will not be put down—that makes a root on the surface of the soil form a bud on the slightest provocation. The splendid head that the vigorous seedling makes renders the art of budding a great difficulty, and in my hands a doubtful experiment. Nor am I alone. Last year I had an expert budder to put in some forty or fifty buds; his success has not equalled my own. Now, with Manetti of my own manufacture I have no trouble—the operation is comparatively easy, and it is rarely unsuccessful, whilst the results of blooms are so little different, that, being essentially lazy, I throw up my hat for the Manetti.

I have still to note that Mr. Harrison prefers the Napoleon stock, then the selected Briar cutting, having scanty faith in the seedling Briar; whilst Mr. George Paul gives us a word of advice which is useful, that the best results are obtained by working each separate Rose on that stock, whatever it may be, that gives us the best results—there is in fact no universal stock.—JOSEPH HINTON, *Warminster*.

P.S.—Mr. Jowitt's address, which was not attached to his list of Roses, is The Old Weir, near Hereford.—J. H.

## MY PRACTICE WITH GRAPES DURING THIS SEASON.

In the autumn of last year I gave the outside Vine border a good mulching of half-decayed cow manure, and allowed it to remain until about the month of April of this year, when I removed the most rough and slightly forked-in the remainder. Last winter, after pruning the Vines and washing the houses, I took off a little of the surface soil from the inside border and gave the border a top-dressing 4 inches deep of the following compost:—To one barrowful of fibry loam well chopped up I added half a stone of half-inch bones, half a stone of wood ashes, an 8-inch potful of soot, and a sprinkling of flowers of sulphur. I believe very much in a change of food for the Vine. Soot is a healthy ingredient for vegetation and a good preventive of mildew, and wood or stick ashes prevent the soil from becoming sour, and are, I think, a good colouring agent—at least they contain potash, which is one of the constituents of the Vine, and I should say that in a soil void of potash Vines will not thrive.

When the berries were about half swelled I mulched the inside borders with cow manure, which no doubt helped the Vines greatly during the very hot weather. In former years I syringed the Vines until the colouring period. This year I

withheld syringing as soon as the bunches showed signs of coming into flower, and I must confess that a decided improvement resulted in the bloom and finish of the Grapes.

I have now the means of heating the water and liquids that I feed with, which is a great advantage; and it may be well to explain that I procured an old engine boiler holding about four hundred gallons of water, and erected it over the furnace at the back of the vineries, considerably above the level, so as to have a good pressure. As soon as the liquid is of the desired heat, which I vary at different stages of the Vine's growth, I then screw on the hose, keep the fire going gently, so as to have the water at about the same heat, as I have a supply pipe running cold water in as fast as the warmed water runs out. By this mode of procedure one man can with ease give the borders a good soaking in half a day, and to greater advantage than by the old system of carrying it in water-pots; or, in other words, one man will do the work of three, which is no slight consideration, besides the water being much better for the growth of the Vines than are cold applications. Watering the inside borders with warm water also saves firing for several days, and the heat from the soil is more natural than that given off by hot-water pipes; also by this process guano and other ingredients are more thoroughly dissolved, and prepared as it were for the food of the Vines.

I am fully convinced that the majority of Vine borders are made up with too rich soil. I do not think that they should be all of the same compound—that is, I would prefer having them richer on the top than at the bottom, so as to keep the roots near the surface, hence my reasons for giving a little fresh compost every year. By having a border that is not too rich stimulants can be applied in a liquid state more freely, and that at a time when the Vines require assistance, and no doubt the food of the Vine is the most directly available when in a fluid state, hence a healthy root-action should be maintained, which may be done by studying the condition and requirements of the Vines.

I have during the past season used various liquids with very satisfactory results, such as manure water taken from the farm-yard where there are horses, pigs, and cows; guano water, soot water, and nitrate of soda. With the latter I am very careful, as it is a very powerful stimulant towards accelerating the growth of Vines.—JAMES DICKSON, *Arkleton*.

### HARDY PLANTS FOR CARPET BEDDING.

I AM glad to see that carpet bedding is taking a new turn, and that hardy plants are largely employed, and I should not be sorry to see it entirely limited to this class of plants; at all events a few beds might be devoted to them in every garden where carpet bedding is adopted.

In a general way the London parks and other public gardens present us with some of the best examples of flower gardening, but they are mostly of the class of showy plants of certain popular kinds; new, and especially hardy, plants being rarely met with. The latter are more likely to be forthcoming in country gardens where attention has been paid to alpine and hardy herbaceous plants, and it is surprising what good results can be obtained by the use of them alone.

In a very fine garden I visited a year or two ago in Dorsetshire there was an Italian garden glowing in all the colours of the rainbow, a series of large beds being well filled with the most fashionable and popular plants of the day; but a little way from them was a large circular bed arranged in a pleasing design with alpine and other low-growing plants, all hardy and thriving in the greatest luxuriance, and I was told it was more admired than the others with their glittering display. In the bed alluded to were many species of Saxifrage, Sedum, Sempervivum, and other low-growing plants displaying various forms of growth, and a very good contrast was made with the various shades of green and white, from the dense emerald green of *Saxifraga cespitosa* and *S. hirta* to the soft grey of some of the Sedums and Sempervivums and the white of *Cerastium tomentosum*, as well as all the neutral colours and pleasing forms of the various silver-gray Saxifrages, &c.

Since writing the above I see in a recent article attention is called to two hardy plants that are said to be adapted for carpet bedding, one of them being a Pennyroyal. This reminds me of a plant I had in use some half-dozen years ago for a similar purpose. I called attention to it at the time, and have seen no reason to depart from the good opinion I then held of it as a neat, dwarf, hardy plant of much beauty. It is a Thyme instead of a Mint, *Thymus (angustifolius) micans*. It is per-

fectly hardy, and better adapted for groundwork or covering a large space than for narrow lines, but it could easily be made to confine itself to the latter. It is a very neat-growing plant, and deserving of a place in every collection of alpine plants. *Sedum Lydium* used with me to have a brown, almost red, appearance; and it would appear to be still prone to assume that colour. The prettiest green cushion plant of years gone by was *Saxifraga Standishii*, an improved form of *S. cespitosa*, it being perhaps the prettiest green to be met with in autumn and winter; it is also suitable for summer if its flower stems are removed. I hope due attention will be paid to plants of this class by those having the means of doing so, as their diversity of form and other features entitle them to as much attention as is now devoted to Ferns.—J. ROBSON.

### THE AMATEURS' UNIVERSAL HAND AND WHEEL BARROW.

THE inventor of this barrow states that "all who have gardens and greenhouses and cannot afford the expensive luxuries of gardeners, and all who live some little distance from a railway station and are not able to keep a pony and trap, and cannot hire a conveyance, will find that the possession of such a barrow as here described and figured is a great acquisition, and after a short use almost a necessity."

Fig. 54 is an ordinary handbarrow, the use of which in conveying plants to and from greenhouses and at flower shows has ever been acknowledged; but as this necessitated the presence of a second person, which was often inconvenient to say no



Fig. 54.

more, a stout bicycle wheel (2 feet 10½ inches high) was added, also a pair of legs, all adjustable with the greatest ease, and then placing a shallow box (sides 4 or 5 inches high) upon the bed of the barrow. This—fitting into iron sockets, and being held firm with two pins attached to the tray, and going through the bed of the framework, and secured on the other side by

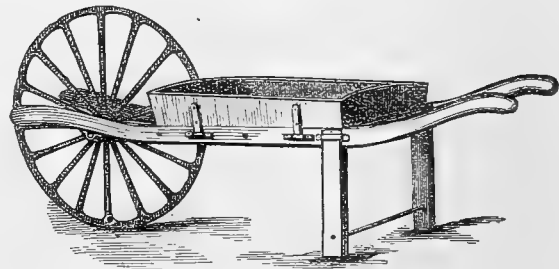


Fig. 55.

two nuts—forms fig. 55, and is for preventing flower pots from falling off. Let anyone wheel or two persons carry a few dozen plants in thumb pots without these sides over uneven ground and he will quickly perceive the advantage.

Fig. 56.—This is a deep box fitted to the framework exactly

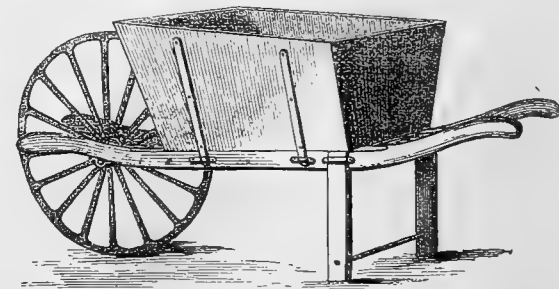


Fig. 56.

in the same way as the shallow one, the deep sides being most useful for the removal of grass or leaves from a lawn.

Fig. 57 is a box about half the size of the last, similarly attached but of stouter make; this forms an ordinary wheelbarrow for light work, but it is better to have an ordinary wheelbarrow for rough work, as the tossing-over and too frequent use might damage the rest of the invention, which is con-

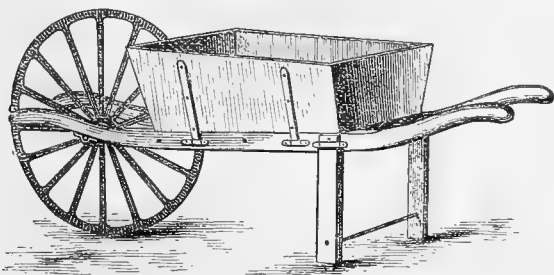


Fig. 57.

structed as lightly as consistent with strength, so that amateurs, gentlemen and ladies, and indeed children, can use it.

Fig. 58.—We now come to the greatest boon of the invention, especially to those situated more than a mile from a railway station, and having no carriage and great difficulty in hiring a fly. In lieu of the box we have merely a straight upright piece of wood to prevent, in the conveyance of boxes, port-

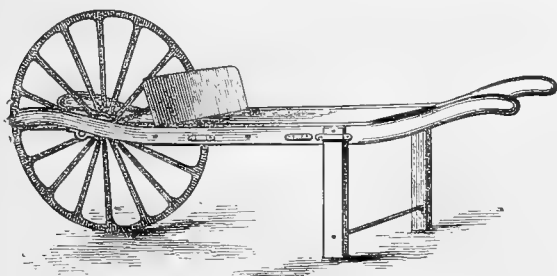


Fig. 58.

manteaus, &c., their rubbing against the wheel when going downhill. Owing to the size of the wheel and the extreme lightness of these barrows, if made by a first-class workman and of the right materials, much luggage can with the greatest ease be conveyed.

Any of your readers wishing for more minute particulars can apply, by forwarding stamped and directed envelope, to the Rev. T. W. Hathwaite, Buckwell, Bristol, by whom the barrow was invented and patented, and who will answer any questions.

The following weights of different parts may be useful:—Fig. 54, weight about 34 lbs.; fig. 55, 46 lbs.; fig. 56, 65 lbs.; fig. 57, 60 lbs.; fig. 58, 41 lbs.

### HOW NOT TO GROW THE ROSE.

NOTWITHSTANDING all that has been written in excellent and popular works on the Rose and its cultivation, notwithstanding the supplementary information given in your Journal week after week and year after year on the same subject, notwithstanding the high estimation in which this flower is held by the English public generally—notwithstanding all this, I cannot but think that a knowledge of even the A B C of the art of Rose-growing is confined to very few, considering that there is scarcely a garden in the whole country in which the Rose is not to be seen.

I hope I am overstating the fact, but I do not think that I can be doing so when I say that not one Rose in fifty is grown under conditions in which it could reasonably be expected, by anyone who understood anything at all about the matter, to yield even tolerably representative blooms. That here and again, under even the most unfavourable conditions, it will produce fairly good blossoms is a fact highly creditable to the Rose, as showing the extreme graciousness of our queen in thus condescending to confer her favours upon even the least worthy of her subjects.

I do not refer in the foregoing and following remarks to

those nurseries of the Rose where every attention is paid to the requirements of its early growth, and where Roses are reared annually by tens of thousands, but to their usual after-treatment in the gardens of the cottage, villa, country house, gentleman's seat, and nobleman's mansion. In some gardens of these classes the Rose is tended with more skill than in others; but as I do not wish to make invidious distinctions, I will say that in every class of garden without exception Roses are frequently to be seen growing in one or other of the three following positions:—

1st, And this is, perhaps, the most common. In the centre of a small circle cut out of the lawn, the remaining space of which is filled up with either spring, bedding, or climbing plants.

2nd, Another favourite spot is in the midst of a crowd of other flowers in a mixed or decorated border.

3rd, And lastly, and least frequently, on a lawn without any turf whatever cut away from around them. This is by far the most fatal position of all.

Whether this almost universal disregard to the first requirements of one of the most beautiful of flowers is due to indifference or want of knowledge I cannot say. I would much rather consider it to be due to the latter cause, and yet it seems to me most strange that cottagers, masters, and gardeners generally, should be so totally ignorant of this one prominent fact respecting the Rose—that even as the shark is one of the most voracious and insatiable of fishes, so is the Rose its representative amongst flowers. How, then, can such a beautiful but hungry creature be expected to retain health and vigour when condemned to feed for ever off the same small plate of food with a lot of other hungry little creatures?

Every one is aware that the queen of flowers has not pretty feet, but it may not be as generally known that they are, moreover, of so tender, and may I say gouty a constitution, that they cannot endure the pressure of even the lightest flower, much less of dainty-looking but far heavier turf. To my mind, this dainty grass would much more appropriately cover her grave—aye, and often does so cover it.

Then, again, how seldom are permanent labels attached to Rose trees in order to distinguish the different varieties. Now, can a rosarian picture to himself any more pitiable object than an indifferently grown Rose without a label? which to his eyes can appear nothing less than a heaping of the grossest insult upon the most unpardonable of injuries.

This deplorable condition of the kingdom of Roses to which I have endeavoured to draw attention is one which I think all true and loyal subjects of the Rose ought to do their utmost to rectify, both by precept and example, on every possible occasion that presents itself. Then if, in addition to this, our Rose nurserymen would, on sending out their Roses, enclose printed suggestions as to those conditions under which no Rose ought ever to be planted, they would, I cannot but believe, bring increased custom to their nurseries and greater credit on their Roses, to say nothing of the lasting benefit they would confer upon the Rose world.—E. M., *Croydon*.

### TRITOMAS.

It is at this time of the year, when nearly all kinds of flower-garden plants have ceased flowering, that we appreciate the beauty of Tritomas. The chilly autumn nights, which lay low the Dahlia and other favourite autumn flowers, have no injurious influence on the Tritomas, but on the contrary, their bright spikes appear to become a shade more vivid. They are none of those miniature or semi-invisible "bright gems of earth," which one has to bow the knee to admire. The large stately spikes of gorgeous orange, red, and green-coloured flowers of Tritomas are extremely effective. The plants are mostly grown in back lines in ribbon borders, and they suit this position admirably; but they are not so often grown as isolated clumps on the grass as they should be. For this purpose they are quite as useful and as becoming as the Pampas Grass. They—also like the Pampas Grass—have a grand appearance near the edge of lakes or rivers; and plants here and there in the shrubberies do not seem out of place.

My chief object, however, in noticing them now is to call attention to their propagation. The best time to increase them is in autumn. When the tops are cut down the roots should be lifted out of the ground and separated into small bits, when they should be potted singly and placed under cover in a frame for the winter. In spring they should be



allowed to start slightly into growth at both root and top before planting them out, and when this is done they go on without receiving any check, and make good blooming plants before autumn.

When the stock is sufficient it is not necessary to take the plants out of the ground every year, for they are more effective the larger they are allowed to become. They grow luxuriantly in rich soil, such as good loam mixed with manure. They will grow also in light poor soil, but they do not remain so long in bloom, and the flower spikes are not so large as those from plants grown in generous soil. I find the best varieties to be *T. uvaria grandiflora*, *T. grandis*, and *T. uvaria glaucescens*.—R. I. N. M.

### PLANTS OF THE PAST.

IN your "Notes and Gleanings" I observe the fine old plant *Witsenia corymbosa* is alluded to. This is one of the good old greenhouse or conservatory plants so seldom seen in modern gardens. There are many other old plants which are almost lost sight of in the rage for novelties. Another fine plant, *Tabernamontana coronaria*, noticed in your account of Wimbledon House, is a plant so seldom seen that many young gardeners know nothing of it. Another fine plant for effect as a stove climber, *Combretum purpureum*, is seldom seen; likewise *Petrea volubilis*, one of the rarest and most beautiful of stove plants. *Portlandia grandiflora* is also absent from many gardens. *Pleromaheteromalla*, *Mussaenda frondosa*, and *Pavetta caffra* are also gone from the general gaze. *Luculia gratissima*, one of our most beautiful and deliciously scented winter-blooming conservatory plants, is seldom grown, and when it is does not look happy. Some twenty-five years ago there was a fine plant on the back wall of the old conservatory at Arundel Castle. The then gardener, Mr. G. M'Ewen, was proud of it, and well he might be, for it covered a large space, and in its season was worth a ten-mile walk to see. *Mitraria coccinea* is out of fashion, I suppose; and where are the specimens of *Leschenaultias*, *Phenocomas*, and *Aphelaxes* as grown by Messrs. W. P. Ayres, W. Barnes, Green, Robertson, and their contemporaries? Why should not some of the horticultural societies offer prizes for threes or sixes of some of these old favourites, and so stimulate young gardeners of the present day to emulate those who have retired with their "blushing honours thick upon them?"

There are many other plants which could be named attractive and desirable. These old favourites have more or less given place to ornamental-foliage plants, which are as easy to grow as *Rhododendrons* at Knap Hill. I will own they are beautiful, but not such masterpieces of plant-growing as the collections shown by the plant-growers in the palmy days of Chiswick. Such specimens of those days required close attention, and the most patient and painstaking carried off the honours. Now, with plenty of glass, pot-room enough, and a liberal supply of liquid manure, nineteen out of twenty of the foliage plants may be grown as freely as Laurels, and those with the most room and largest place carry off the prizes.—J. GADD, Thorndon

### NURSERYMEN'S VOTES IN ELECTION OF ROSES.

(Continued from page 365.)

Mr. H. MAY, Bedale, Yorkshire.

- |                                 |                                |
|---------------------------------|--------------------------------|
| 1. Alfred Colomb                | 26. Edward Morren              |
| 2. Antoine Ducher               | 27. Hippolyte Jamin            |
| 3. Camille Bernardin            | 28. Louise Peyronny            |
| 4. Charles Lefebvre             | 29. Madame Hunnabelle          |
| 5. Comtesse d'Oxford            | 30. Madame Nachury             |
| 6. Duke of Edinburgh            | 31. Madame Marius Coté         |
| 7. Emilie Hausburg              | 32. Mdlle. Eugénie Verdier     |
| 8. Elie Morel                   | 33. Mdlle. Marie Finger        |
| 9. François Lacharme            | 34. Mdlle. Marie Rady          |
| 10. François Michelon           | 35. Mons. Noman                |
| 11. La France                   | 36. Marquise de Castellane     |
| 12. Lyonnais                    | 37. Maréchal Niel              |
| 13. Louis Van Houtte            | 38. Prince Camille de Rohan    |
| 14. Madame Lacharme             | 39. President Thiers           |
| 15. Madame Victor Verdier       | 40. Princess Mary of Cambridge |
| 16. Etienne Levat               | 41. Princess Beatrice          |
| 17. Mdlle. Fernande de la Foiet | 42. Richard Wallace            |
| 18. Marie Baumann               | 43. Souvenir de la Malmaison   |
| 19. Maurice Bernardin           | 44. Souvenir de Spa            |
| 20. Gloire de Dijon             | 45. Sir Garnet Wolseley        |
|                                 | 46. Thomas Methven             |
| 21. Duchess of Edinburgh        | 47. Wilson Saunders            |
| 22. Duchesse de Caylus          | 48. Exposition de Brie         |
| 23. Duc de Rohan                | 49. Princess Christian         |
| 24. Devonensis                  | 50. Francesque Barillet        |
| 25. Centifolia Roses            |                                |

Messrs. MITCHELL & SONS, Piltown Nurseries, Uckfield, Sussex.

- |                            |                                |
|----------------------------|--------------------------------|
| 1. Alfred Colomb           | 26. Baron Hausmann             |
| 2. Baronne de Rothschild   | 27. Lord Macaulay              |
| 3. Capitaine Christy       | 28. Maurice Bernardin          |
| 4. Charles Lefebvre        | 29. Madame Charles Wood        |
| 5. Comtesse d'Oxford       | 30. Mdlle. Thérèse Levat       |
| 6. Dr. Andry               | 31. Marguerite de St. Amand    |
| 7. Duke of Wellington      | 32. Marie Baumann              |
| 8. Duke of Edinburgh       | 33. Maréchal Vaillant          |
| 9. Edward Morren           | 34. Marquise de Castellane     |
| 10. Ferdinand de Lesseps   | 35. Mons. Boncenne             |
| 11. Fisher Holmes          | 36. Napoleon III.              |
| 12. François Michelon      | 37. Pierre Notting             |
| 13. La France              | 38. Princess Mary of Cambridge |
| 14. Louis Van Houtte       | 39. Prince Camille de Rohan    |
| 15. Madame Victor Verdier  | 40. Reynolds Hole              |
| 16. Mdlle. Eugénie Verdier | 41. Sénateur Vaisse            |
| 17. Mdlle. Marie Rady      | 42. Sir Garnet Wolseley        |
| 18. Madame Margottin       | 43. Victor Verdier             |
| 19. Maréchal Niel          | 44. Xavier Olibo               |
| 20. Souvenir d'Elise       | 45. Triomphe de Rennes         |
|                            | 46. Catherine Mermet           |
| 21. Baron A. de Rothschild | 47. Jean Pernet                |
| 22. Camille Bernardin      | 48. Madame Willermoz           |
| 23. Clotilde Rolland       | 49. Souvenir d'un Ami          |
| 24. Dupuy Jamin            | 50. Souvenir de Paul Neron     |
| 25. Etienne Levat          |                                |

Mr. H. MERRYWEATHER, Southwell, Notts.

This selection is placed by Mr. M. in that which he considers the order of merit of the varieties.

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. Maréchal Niel            | 26. Dupuy Jamin               |
| 2. Charles Lefebvre         | 27. Emilie Hausburg           |
| 3. Marie Baumann            | 28. La France                 |
| 4. Baronne de Rothschild    | 29. Mdlle. Marie Finger       |
| 5. Reynolds Hole            | 30. Devonensis                |
| 6. Louis Van Houtte         | 31. Madame Willermoz          |
| 7. Alfred Colomb            | 32. Souvenir de Spa           |
| 8. Etienne Levat            | 33. Thomas Mills              |
| 9. Mdlle. Marie Rady        | 34. Marquise de Castellane    |
| 10. Dr. Andry               | 35. Pauline Talabot           |
| 11. Capitaine Christy       | 36. Maréchal Vaillant         |
| 12. Niphetos                | 37. Belle Lyonnaise           |
| 13. Madame Victor Verdier   | 38. La Bonne d'Or             |
| 14. Madame Hippolyte Jamin  | 39. Camille Bernardin         |
| 15. Souvenir d'Elise        | 40. Anguste Rigotard          |
| 16. Auguste Neumann         | 41. Hippolyte Jamin           |
| 17. Comtesse de Serenyi     | 42. Docteur de Chalus         |
| 18. Pierre Notting          | 43. Lord Macaulay             |
| 19. Marguerite de St. Amand | 44. Duke of Edinburgh         |
| 20. Miss Hassard            | 45. Marie Van Houtte          |
|                             | 46. Beauty of Waltham         |
| 21. François Michelon       | 47. Leopold I.                |
| 22. Horace Vernet           | 48. Gloire de Dijon           |
| 23. Madame Lacharme         | 49. Madame Clemence Joigneaux |
| 24. Souvenir d'un Ami       | 50. Princess Beatrice         |
| 25. Fisher Holmes           |                               |

Mr. GEORGE PAUL, Cheshunt, Herts.

- |                              |                             |
|------------------------------|-----------------------------|
| 1. Alfred Colomb             | 26. Comtesse d'Oxford       |
| 2. Baronne de Rothschild     | 27. Duc de Rohan            |
| 3. Charles Lefebvre          | 28. Dr. Andry               |
| 4. Camille Bernardin         | 29. Fisher Holmes           |
| 5. Duke of Edinburgh         | 30. General Jacqueminot     |
| 6. Etienne Levat             | 31. Horace Vernet           |
| 7. Ferdinand de Lesseps      | 32. Jules Margottin         |
| 8. François Michelon         | 33. Le Havre                |
| 9. La France                 | 34. John Hopper             |
| 10. Louis Van Houtte         | 35. Hippolyte Jamin         |
| 11. Madame Victor Verdier    | 36. Marguerite de St. Amand |
| 12. Marie Baumann            | 37. Mdlle. Marie Finger     |
| 13. Marquise de Castellane   | 38. Madame Lacharme         |
| 14. Mons. E. Y. Teas         | 39. Madame Hippolyte Jamin  |
| 15. Prince Camille de Rohan  | 40. Mdlle. Eugénie Verdier  |
| 16. Reynolds Hole            | 41. Monsieur Noman          |
| 17. Souvenir de la Malmaison | 42. Monsieur Boncenne       |
| 18. Maréchal Niel            | 43. Paul Neron              |
| 19. Gloire de Dijon          | 44. Sénateur Vaisse         |
| 20. Cheshunt Hybrid          | 45. Victor Verdier          |
|                              | 46. Xavier Olibo            |
| 21. Abel Grand               | 47. Belle Lyonnaise         |
| 22. Annie Laxton             | 48. Catherine Mermet        |
| 23. Baron Bonstetten         | 49. Marie Van Houtte        |
| 24. Capitaine Christy        | 50. Mdlle. Thérèse Levat    |
| 25. Comtesse de Serenyi      |                             |

\* Mr. G. Paul has bracketed Maurice Bernardin and Exposition de Brie as similar, or very nearly so, with Ferdinand de Lesseps; the vote was given to Ferdinand de Lesseps, that Rose being at the head of the three. Mr. Paul also adds that Xavier Olibo and Mons. Noman are put in the second class for want of constitution, and that new Roses are purposely excluded from his list.

Mr. G. PAWES, Oxford.

- |                         |                           |
|-------------------------|---------------------------|
| 1. Alfred Colomb        | 14. Horace Vernet         |
| 2. Charles Lefebvre     | 15. Hippolyte Jamin       |
| 3. Marie Baumann        | 16. Louis Van Houtte      |
| 4. Maréchal Niel        | 17. Baronne de Rothschild |
| 5. Catherine Mermet     | 18. Madame Victor Verdier |
| 6. Jean Ducher          | 19. Mdlle. Marie Finger   |
| 7. Marie Guillot        | 20. Mons. E. Y. Teas      |
| 8. Souvenir d'Elise     |                           |
| 9. Perle des Jardins    | 21. Alfred Rigotard       |
| 10. Marie Opoix         | 22. Camille Bernardin     |
| 11. François Michelon   | 23. Capitaine Christy     |
| 12. Emilie Hausburg     | 24. Claude Levat          |
| 13. Comtesse de Serenyi | 25. Devienne Lamy         |

26. Duke of Edinburgh
27. Duke of Wellington
28. E. Herger
29. Etienne Levot
30. Fisher Holmes
31. John Hopper
32. La Duchesse de Morny
33. La France
34. La Rosière
35. Madame G. Schwartz
36. Madame Lacharme
37. Mdlle. Marie Cointet
38. Marguerite de St. Amand

Mr. W. RUMSEY, Waltham Cross, N.

1. Abel Grand
2. Alfred Colomb
3. Baronne de Rothschild
4. Countess of Oxford
5. Duke of Edinburgh
6. Edward Morren
7. Emilie Hausburg
8. Etienne Levot
9. François Michelon
10. John Hopper
11. La Rosière
12. Louis Van Houtte
13. Madame Victor Verdier
14. Mdlle. Eugénie Verdier
15. Marie Baumann
16. Sénateur Vaisse
17. Souvenir de la Malmaison
18. Alba Rose
19. Gloire de Dijon
20. Maréchal Niel

21. Antoine Mouton
22. Capitaine Christy
23. Charles Lefebvre
24. Comtesse de Serenyi
25. Dr. Andry

Mr. CHARLES TURNER, Slough.

1. Miss Harsard
2. Rev. J. B. M. Camm
3. Mrs. Baker
4. Alfred Colomb
5. Charles Lefebvre
6. Devoniensis
7. Etienne Levot
8. François Michelon
9. Gloire de Dijon
10. John Hopper
11. La France
12. Baronne de Rothschild
13. Maréchal Niel
14. Madame Victor Verdier
15. Marie Baumann
16. Marquise de Castellane
17. Sénateur Vaisse
18. Xavier Olibo
19. Catherine Mermet
20. Mdlle. Eugénie Verdier

21. Royal Standard
22. Oxonian
23. Marie Guillot
24. Perle des Jardins
25. Camille Bernardin

Mr. JAMES WALTERS, Mount Radford Nursery, Exeter.

1. Alfred Colomb
2. Charles Lefebvre
3. Dr. Andry
4. Etienne Levot
5. Ferdinand de Lesseps
6. John Hopper
7. La France
8. Louis Van Houtte
9. Baronne de Rothschild
10. Madame Victor Verdier
11. Mdlle. Eugénie Verdier
12. Marie Baumann
13. Marguerite de St. Amand
14. Marquise de Castellane
15. Prince Camille de Rohan
16. Xavier Olibo
17. Devoniensis
18. Gloire de Dijon
19. Maréchal Niel
20. Souvenir d'un Ami

21. Abel Grand
22. Antoine Ducher
23. Boule de Neige
24. Camille Bernardin
25. Comtesse d'Oxford

Mr. J. WHEELER, Warminster.

1. Alfred Colomb
2. Charles Lefebvre
3. Comtesse d'Oxford
4. Edward Morren
5. Exposition de Brie
6. Horace Vernet
7. La France
8. Louis Van Houtte
9. Marguerite de St. Amand
10. Baronne de Rothschild
11. Marie Baumann
12. Marquise de Castellane
13. Reine du Midi
14. Rev. J. B. M. Camm

39. Mdlle. Marie Rady
40. Marquise de Castellane
41. Mons. Noman
42. Pauline Talabot
43. Pierre Notting
44. Rev. J. B. M. Camm
45. Reynolds Hole
46. Sénateur Vaisse
47. Thos. Mills
48. Xavier Olibo
49. Comtesse de Nadaillac
50. Marie Van Houtte

26. Elise Bœlle
27. Ferdinand de Lesseps
28. Fisher Holmes
29. Hippolyte Jamin
30. John Stuart Mill
31. La France
32. Léopold Première
33. Madame Bouton
34. Madame Scipion Cochet
35. Mdlle. Annie Wood
36. Mdlle. Marie Rady
37. Marquise de Castellane
38. Paul Neron
39. Pierre Notting
40. Princess Beatrice
41. Madame Falcot
42. Rev. J. B. M. Camm
43. Souvenir d'un Ami
44. Souvenir de Spa
45. Star of Waltham
46. Thomas Mills
47. Xavier Olibo
48. Céline Forestier
49. Cheshunt Hybrid
50. Devoniensis

26. Capitaine Christy
27. Comtesse d'Oxford
28. Duke of Edinburgh
29. Ferdinand de Lesseps
30. Jules Margottin
31. Le Havre
32. Louis Van Houtte
33. Madame Falcot
34. Madame H. Jamin
35. Madame Lacharme
36. Madame Willermoz
37. Mdlle. Thérèse Levot
38. Marguerite de St. Amand
39. Niphotos
40. Maurice Bernardin
41. Prince Camille de Rohan
42. Princess Beatrice
43. Souvenir de la Malmaison
44. Mdlle. Bonnaire
45. Star of Waltham
46. Belle Lyonnaise
47. Annie Laxton
48. Edward Morren
49. Jean Ducher
50. Horace Vernet

15. Thomas Mills
16. Catherine Mermet
17. Souvenir d'Elise
18. Souvenir d'un Ami
19. Maréchal Niel
20. Madame Fillion
21. Antoine Mouton
22. André Durand
23. Baron de Bonstetten
24. Beauty of Waltham
25. Camille Beroardin
26. Capitaine Christy
27. Dupuy Jamin
28. Duchesse d'Orléans
29. Duchess of Edinburgh
30. Emilie Hausburg
31. Etienne Levot
32. Felix Genaro

33. Ferdinand de Lesseps
34. François Michelon
35. Feliouen David
36. Gloire de Vitry
37. Hippolyte Jamin
38. Madame Moreau
39. Madame Lacharme
40. Madame Victor Verdier
41. Monsieur Claude Levot
42. Devoniensis
43. Gloire de Dijon
44. Perle des Jardins
45. Perle de Lyon
46. Triomphe de Rennes
47. Madame Caillat
48. Mdlle. Marie Fingar
49. Madame Charles Crapelet
50. Pierre Notting

## GATHERING THE CHAMPAGNE GRAPES.

WITHIN an easy distance of the town of Rheims, and connected with it by a convenient railway, will be found the various localities which yield the Grapes from which the popular wine called champagne is made. Covering all the hills and scattered about the plains, occupying every square foot of available space, the Vine steadily asserts itself, and, despite the monotonous regularity of the rows, the straightness of the intersecting avenues, and the millions of light grey short sticks to which the Vines are attached, it would be unjust to deny the existence of a certain picturesque effect. The gentle undulation of the soil about Reims considerably favours the growth of the Grapes. All the Vine gardens obtain the full force of the sun, and it may be safely said that they obtain a maximum of heat and a minimum of shadow. The land in France is so very valuable, and the system of peasant proprietorship is so usually followed, that we find in the neighbourhood of Rheims a general and equal division of space.

It is commonly but erroneously supposed that each particular brand of champagne is made from the Grapes grown on one vineyard, and, further, that every proprietor makes his wine from his or her own ground. This is by no manner of means the case. The Clicquots, the Moets, the Mums, the Roederers, the Goulets, and the Pommerys all have special tracts, and naturally employ their own Grapes; but at vintage time it is necessary to buy liberally from the humbler growers in order to meet the demands of their gigantic establishments. There is another reason why there should be a mutual exchange of the champagne fruit. This popular wine only obtains its perfection by a careful, artistic, and judicious mixture of juices obtained from first-class vineyards. It is said that among these Ays is renowned for the sweetness of the Grapes; Cramant for its sparkling properties; Verzenay for bouquet; and Bouzy for force or *vinosité*. Doctors differ on the subject of these mixtures. Some manufacturers insist upon carefully divided proportions of Sillery, Verzenay, and Bouzy; of Mareuil, Ay, and Dizy; and Pierry, Cramant, Avizi, and Mesnil; whilst others content themselves with Ay, Pierry, and Cramant. Be this as it may, the true art of champagne-making is in the mixture of the various qualities when the fermentation of the wine in cask is complete about Christmas time. It requires a careful intelligence to buy judiciously at the time of the *vendanges*, and to prophesy correctly concerning the ultimate value of the perfected Grape; but the great art is when the proportions of fermented juice are poured into the huge mixing vat in the cool cellars of the manufactory.

I was struck with the cleanliness, decorum, and cheerful character of all employed on the various vineyards I have visited. There was no noise or disturbance anywhere, and wherever I found the labourers, hard at work among the Vines, dressing the Grapes for the press, or returning from their work, there was the same order, civility, and frequent merriment. The adjacent towns, villages, farms, and barns fairly accommodate this influx of visitors, and, so far as I could see, there were no signs whatever of drunkenness or disorder. The pickers are summoned by beat of drum at daybreak each morning in the market-place of the villages adjacent to the vineyards, and then and there a price is made for the day's labour. This varies according to the work required to be done and the speed with which it is necessary to accomplish it. The bargain struck, away go men, women, and children into the vineyard, each provided with a small basket and a pocket knife, curved like a reaping hook. They are divided into gangs, each headed by an overseer, and as the small hand baskets are filled they are carried to the end of the row, where specially selected hands are employed in what is called dressing the

Grapes for the press. In what are known as good years this operation is considered useless, and the manufacturer is compelled to purchase the vintage, good and bad together, just as it comes from the field. But any such reckless system is utterly impossible in most of the vineyards this year. At Verzenay, for instance, will be found a considerable quantity of rottenness, much worm-eaten and mildewed fruit, which if pressed in its present condition would assuredly have the effect of tainting the wine. So the system of dressing, happily for the manufacturer, is almost universal.

Each bunch as it is tumbled into the crate at the side of the vineyard is carefully gone over by female fingers; the bad and cankered parts are rejected, diseased stalks are pruned away, and some attempt is made to send the Grapes to the press in a decent condition. But even this hurried inspection is not all that could be desired, and the sharpest eye is apt to be deceived, particularly in the Verzenay vintage of this year. We frequently discovered in the very heart of what looked a regular and well-grown bunch, a Grape or so absolutely rotten and capable of infecting its companions when they were heaped together in the press. The dressed fruit, when carefully finished and inspected, is quickly borne away in carts to the nearest press, usually situated in the village, and the refuse remaining represents the loss in quantity to the proprietor. The general colour of the Grape in the Rheims district is black; but there are celebrated vineyards, such as Cramant, which only grow white Grapes. It will occur, doubtless, to someone to ask if the labourers are permitted to go upon the old hospitable principle of "eat what you like and pocket none." Nearly every sensible proprietor places no restriction on the obvious temptation of the enjoyment of ripe Grapes on a hot day. It is found far the most economical plan in the end, for the first day's debauch ends in such serious inconvenience, and very often loss of wages, that the Grapes are left alone from that moment. Women and children are found to be the most skillful pickers, and the men are for the most part employed in carrying the baskets to and fro, emptying the crates, and loading the waggons.—(*Daily Telegraph*.)

#### HARDY AUTUMNAL FLOWERS.

As Mr. Taylor in the *Journal* of October 12th asked for information respecting hardy flowers, I wish to endorse all he says respecting their beauty and utility at any time of the year, but more particularly now that the more tender occupants of the garden are becoming scarce.

I have a few plants in bloom now which he does not mention; they are *Pyrethrum uliginosum* (a truly grand plant), and several other varieties both double and single; *Rudbeckia Newmanii*, a gem of the first water; *Oenothera grandiflora*, *Astrantia carnioica*, *Delphinium* in variety, *Schizostylis coccinea* now coming into bloom (October 27th), and is most beautiful. *Tropaeolum speciosum* is now going out of bloom.

I do not remember ever seeing so many herbaceous plants in bloom so late as this before.—E. SENDALL, *Gardener, Barningham Hall, Hanworth, Norfolk*.

#### THE INNER TEMPLE CHRYSANTHEMUM SHOW.

WHEN a display of flowers like the one now open to the public can be produced in the heart of the metropolis, it is a proof alike of the great value of the Chrysanthemum as a town plant, and of the skill of the gardener in bringing out its beauties so fully. It should be remembered, however, that Mr. Newton does not attempt to grow symmetrical plants, but only fine blooms, and in this he succeeds.

There is no wonder that vast crowds of Londoners and London visitors avail themselves of the kind privilege accorded by the Benchers of enjoying the fine autumn display, for it is certainly worthy of inspection by all who love flowers, and if there are any who do not we advise them to go for the purpose of being converted. We knew of a prize-fighter who went to a Rose show and was conquered and himself became a buyer of new Roses, a grower and prizewinner, and from that time took no more interest in ropes and stakes except for supporting the flowers by which he was vanquished, and which perhaps even now he continues to nurture. It is not, therefore, even those who delight in flowers but those who have not yet been enabled to appreciate their charms whom we advise to visit the Inner Temple Gardens during the early part of the present month.

The show is, like other shows of the past, a simple bank of fine flowers, the plants being from 5 to 7 feet in height, and about four hundred in number, all grown on single stems, each plant supporting three to six blooms. There are, in fact, four close rows of plants extending a length of 50 yards, protected by glass with the front sheltered by a screen of canvas. It is the seventh show under Mr. Newton's management, and is superior to most that have preceded it, and inferior to none.

Only a few of the most striking of the eighty varieties can be noticed, commencing with those of recent introduction. One which cannot fail to strike the eye of most visitors is named "Newton's Inner Temple." This is purplish crimson in colour, the exterior of the petals having a lilac tinge. It is a bold firm flower of great substance of petal, and is slightly incurved. It is an acquisition for its rich colour, but would be more valuable were its petals of greater length. It is perfectly distinct from any other variety in the show, and fine as it is now, it is possible that it will improve in future years. Another new variety of undoubted merit is Mrs. Dixon. This is a golden sport from George Glenny, which in turn came from Mrs. George Rundle. The three are identical in character and form of flower, Mrs. Dixon being a bright glossy yellow. This is a trio of Chrysanthemums which in their colours—white, sulphur, and yellow—are for general decorative purposes probably unequalled. Rather small, perhaps, their flowers may be, but they are constant in their excellence and are freely produced. The next variety to notice is Mrs. George Parnell. This may be described as an enlarged form of Mrs. G. Rundle, from which it is really more dissimilar in foliage than in bloom. Mr. G. Parnell, we believe, received a first-class certificate last year at the Royal Horticultural Society, and is a variety which must be grown by all exhibitors.

Refulgence, which was exhibited for the first time last year, is the richest of all in colour and has improved in form, but it is clear that high culture is requisite to "fill" the flower and close the yellow eye. When that is accomplished none can deny its excellence. Other highly coloured flowers are Mount Etna and Count de Kanzeau, which are reddish crimson but imbricated; Garibaldi, chestnut, is very rich; and particularly attractive is King of Denmark, rosy lilac with orange tips. Prince Alfred is the largest of all, but there are almost equally fine examples of Nil Desperandum, Hercules, Prince of Wales, Alfred Salter, Golden Eagle, Ossian, and Jardin des Plantes. Amongst the lights White Globe has the finest blooms, and very superior also are White Beverley, Vesta, Mount Edgumbe, and Princess of Wales, the two latter being tinted with rose.

In the Japanese section Elaine is the most conspicuous, and a few blooms are to be seen such as have never been surpassed. James Salter, Fair Maid of Guernsey, and Garnet are also well represented.

In the outside border is a good display of Pompons, the most effective being the three Cedo Nullis, Florence, Madame Martha, Madame Tipping, and Anrore Boreale.

The thanks of the public are due to the Hon. Society of the Inner Temple for their liberality in providing this display through their able gardener Mr. Newton.

#### THE ROSE ELECTION.

FIG! fig! "WYLD SAVAGE." What can be the matter? Had something marred thy digestion, or a recalcitrant nonconformist foused thine ire? Or it is, maybe, a spice of thine earliest ardour, when with lance, and sword, and sabertash thou wast ready to confront all the foes of perfidious Albion. Whatever it was, never didst thou better deserve the title which thy neighbour gave thee. One can almost hear the war shout, imagine thy fair face tattooed, and see thee devoting poor "J. H." to the dire punishment of the Furies. But it is too bad. Here is a gentleman, who amidst the duties of an arduous profession, the most arduous that a gentleman can fill, for the benefit of the Rose world devotes an immense amount of labour, time, and a good deal of expense to what to him is no doubt a labour of love; and yet my good friend heaps on his devoted head all kinds of sarcasm, and calls the election abominable, misleading, &c. Now on the other hand I, with a few more grey hairs on my head than "WYLD SAVAGE," say that the very warmest thanks of all Rose-growers are due to Mr. Hinton (whose hand I have never had the pleasure of shaking) for the pains and intelligence with which he has carried out the plan; the result, I believe, when carefully studied will be an immense boon to all Rose-growers.

And now to examine "WYLD SAVAGE's" tirade. He seems

to me to look at the whole matter as an exhibitor, but that was not the intention of "J. H." It was not certainly my notion in giving in my list. The wish was to give a list of the best Roses, and this accounts, I think, for the position assigned to Gloire de Dijon. It is true, as an exhibition Rose it is rarely up to the mark, but as a garden Rose in all soils, situations, climates, what can touch it? If I had to grow but one Rose old Gloire would be my choice. For the same reason I imagine Comtesse de Chabrillant occupies a low position. Exhibitors have not included her because she is small; but barring that it is the perfection of a Rose, and I would give her a foremost place on that account alone. For the same cause—usefulness in a garden, I imagine Souvenir de la Malmaison is placed where it is.

Another point that "WYLD SAVAGE" entirely overlooks is the effect of situation and climate. Some Roses which he names and the merits of which he thinks have been overlooked are doubtless gems, but it is not given to everybody to be in a charming spot where Teas grow like weeds, and hence Marie Van Houtte, Belle Lyonnaise, and Catherine Mermet will not do with everybody as they will with him. And the same remarks apply to H.P.'s also. Duke of Wellington is no doubt a grand Rose, but then it will not grow in many places, and it is not everybody who can afford to grow and throw away every year. Nor is Madame Charles Wood, over whose neglected charms "WYLD SAVAGE" mourns, a Rose the vigour of which we can rely upon. I do not quite understand what he means about Céline Forestier, whether surprised at the position she occupies or regret that she does not take a higher one; as an exhibition Rose she is difficult to catch, but as a garden Rose how lovely it is!

But then the list is altogether a failure because Hercules has not given in his names! One might imagine (only that no "she" could write thus) that it was Omphale mourning over her neglected lord; but he is rather like the carter in the old fable, whose cart was stuck in the mud, and who stood wringing his hands and calling out Hercules! Hercules! to deliver him. I rather imagine, from what I know of the muscular hero, that it was not because he foresaw a failure that he did not give in his list, but because he has a great objection to wielding the pen. There is no one for whom I entertain a greater regard than the said Hercules. I believe him to be a very champion, but then I know also all his growing has exhibiting in view. He resides in a climate where there is but little to contend with in the way of weather, and hence his list might have disadvantages to many.

But the next charge is the strangest of all—that the lists are sent in by nobodies, that we are no better than the clodhoppers in a village alehouse, &c. Now in the lists of amateurs I see such names amongst amateurs as Christy, Peach, Camm! Mayo, Beachey, Cheales, Laxton, and Jowitt, men who are most of them exhibitors, and have, if I mistake not, knocked "WYLD SAVAGE" out of time more than once; and find that amongst professional growers Cant, Cranston, Curtis, G. Paul, Prince, and Turner have given in their lists. I hold my breath in astonishment at the "WYLD" rush of the Savage, and wonder what he wants.

And then as to the blunders about names of raisers. "J. H." deserves our best thanks for endeavouring to supply them, and it was not to be expected that it would not be imperfect. As to Marie Cointet (which most people find too delicate to be a gem of the first water), Mr. Bennett certainly was not its raiser; but had it not been for him I think it would have been consigned to the "tomb of all the Capulets." It had been passed by until he brought it forward. If "J. H." has any difficulty about raisers' names I fancy Mr. Cant could help him, as I remember years ago seeing with him a note-book in which each year's new Roses were inserted with the names of the raisers, and he may have it yet.

I hope "J. H." will not think "WYLD SAVAGE" a representative man on this occasion. I hope he only represents himself, but that most of us thank him heartily for his work.—D., Deal.

"WYLD SAVAGE" certainly writes as though he was civilised, to an extent perhaps influenced, or probably limited, by the nature of the soil he lives on. To think that he should debase the character of my charming Gloire de Dijon, which gives me innumerable perfect blooms twice in the year, while others will call this Rose "Glory Die-John" and "Glorie-dee-die-John."

I have seen the results of the Rose election, and believe that each list is the conscientious opinion of your correspondents.

Mr. Hinton need not be alarmed at differences of opinion. I certainly dislike that coarse Paul Neron, and should have excluded him as quite unfit even for the company of Gloire de Dijon. I can also imagine that some of your voters have not had sufficient experience of Beauty of Waltham, Duc de Rohan, and Belle Lyonnaise, to recommend them in their list; or can it be that these have been tried, and are not good with them?

It is not every season that I buy new Roses, and then only to fill up; and although I watch your weekly issue with keen interest for all the news, and even anticipate your election by my own private election list for comparison sake, I too can differ in some respects with the result, principally through old favourites giving place to new varieties; but then, is it possible to obtain fifty people growing Roses in different soils, atmospheres, and circumstances, of one opinion respecting some Roses, and particularly new introductions?

Frequent disappointments have cooled my ardour, and now I never buy new Roses until they have gained honours in the prize list.—MARIE VAN HOUTTE.

"CONSIDER YOURSELF, sir, well sat upon." And so I do, and know also that I have yet further condemnation to expect from private letters I have received; but yet in self-defence I must say one word more. I had not the slightest idea when asked to send in a list of Roses that such Roses were not to be selected as exhibition sorts. If I had known that the best Roses for general purposes were meant I should have had nothing to do with the election. I grow Roses for exhibition, and not for decorating my garden, or for ladies and children to run about among them with a pair of scissors cutting here and snipping there, and detesting the very idea of disbudding.

As a garden Rose the "Gloire" is no doubt a grand Rose in its way, but infinitely surpassed even in this light by Madame Trifle, Belle Lyonnaise, and Madame Berard. Whatever condemnation I may meet with from the rosarians who have written or may yet write to you on the subject of the Gloire as an exhibition flower I care not so long as I have such an authority on my side as Mr. Benjamin R. Cant. I think it will be allowed by all that no other nurseryman shows the Tea Rose in such perfect form and colour as the great Colchester rosarian, and yet he does not place the Gloire in the first fifty. Mr. Corp of Oxford, and Mr. Fraser of Lea Bridge, also exclude it, so that I am by no means alone. I am much interested in the lists, and have my mind now set at rest as to what nurserymen excluded Charles Lefebvre from the first twenty. I see they are Messrs. Ewing & Co. of Norfolk, who of course place Gloire de Dijon in that exalted position.

The table published by Mr. Hinton in last week's issue is a most interesting one, and although he may point to its bearing out his views I may also do the same. Duke of Wellington in this list is 27; in the former list he was placed 39th. However, after all, as Mr. Paul so well shows, it is impossible to arrive at any real judgment of the qualities of the Rose, for what will flourish in one soil will scarcely live in another.—WYLD SAVAGE.

### WEYBRIDGE.

LAST year I gave a few hurried notes of a visit I paid to Weybridge Heath on a very wet day, and of the interest which there is to the horticulturist in the gardens of Dr. Henry Bennett and Mr. G. F. Wilson. This year, under more favourable circumstances, I was enabled to repeat my visit and to add to it another—that of the famed garden of Mr. McIntosh of Duneevan, and perhaps a few additional notes on them may not be unacceptable to the readers of our Journal.

No three places could give, I think, a better idea of the horticultural zeal of our nation and of its varied character than these I have mentioned. They are all small—merely the gardens attached to villa residences, and all essentially different. In the garden of Dr. Bennett we have the refined taste and love for elegancies which mark the travelled and accomplished physician (not forgetting the *placens uxor*), where all inside the house and in the garden tell of how much stress is laid on that which is pleasing to the eye and in accordance with the strict principles of taste. In that of Mr. G. F. Wilson we have that of the enthusiast, whose object is to gather together the choicest and best of the plants he loves so well, and to be more interested in their successful culture than in the effect produced as a matter of taste; while in that of Mr. McIntosh we have the carrying-out in its fulness of the culture of one or



two specialities, which make the grand feature of the place; yet all three in their way have a beauty of their own, and to one who, like myself, is bound by no limits in horticulture, all were attractive.

I last year, in mentioning Dr. Bennett's pretty residence, alluded to the manner in which he has made innovations on old-established ways of doing things: that the Heather which forms the groundwork of his wood garden, instead of being allowed to grow long and lanky is kept close cut, and presents a beautiful carpet of purple bloom, the idea being borrowed from patches in St. George's Hills, which he found apparently nibbled by rabbits and throwing out their shoots abundantly, instead of, as in ordinary cases, merely coming out at the end of the blooming branches. This year it has made still further progress, and after a time will, I am sure, fulfil his expectations. He has this year introduced another innovation—namely, planting some creepers at the base of the trees, and thus covering the stems with bloom. We know how completely this is the case in tropical climates, and I am sure that to see Clematises of various colours, *Bignonia radicans* major, and other climbing plants throwing out their shining blooms along the stems and among the branches of our trees would be a pleasing sight, and I hope in a small way to try it myself. I was particularly struck, too, with the effectiveness of the large *Fuchsias* grown in pots and standing outside the house. Their branches heavily laden with blossoms of various colours and their graceful habit fit them admirably for such work. The difficulties in the way of Dr. Bennett's gardening are manifold, arising from the fact that he is here for only four months, and that his heart is with his Mentone garden, and that for during eight months he is obliged to leave all at The Ferns in the care of his gardener. Yet no one coming upon it as I did in the month of September would believe either that this was the case or that the whole house had been dismantled; but so it is, and the able superintendence without and the deft hands within soon bring beauty out of disorder, and make one wonder that it could ever be otherwise than we see it.

Mr. Wilson's pretty place, Heatherbank, is, as all the gardening world knows, the home of everything that is rare and beautiful amongst herbaceous plants and Lilies, and the marvellous manner in which they grow here reflects the utmost credit on his skill as a cultivator. We all know how he astonishes us sometimes at the Royal Horticultural Society with some new Lily or some favourite herbaceous plant, and here every nook in the garden shows how thoroughly they are at home. It was too late to see the garden in its beauty, but where herbaceous and alpine plants are grown there is always something of deep interest. Amongst these I noticed the rare and beautiful *Omphalodes Lucilia*, fine pieces of *Colchicum speciosum* and *Crocus speciosus*, the *Anæctocheilus*-like *Goodyera pubescens*, *Soldanella Wheeleri*, *Gaultheria procumbens* growing quite rampant, *Dahlia glabrata*, *Fragaria indica*, *Vitis heterophylla*, *Rhododendron præcox superbum*, *Anemone japonica hybrida*, *Gypsophila prostrata* and *G. Stevensii*, *Gentiana asclepiadea*, &c.; while in the houses, waiting for their turn of potting, which Mr. W.'s zeal on behalf of the poor Royal Horticultural Society had hindered, were quantities of Lilies, *Calochortuses*, *Cyclobothras*, and all rare and curious bulbs in which their owner delights. The one great point of novelty was, however, Mr. Wilson's tank, which he has already described in these columns, and in which I saw many aquatic plants doing admirably on their little floating islands. The plan is evidently sound, and I have no doubt admits of many modifications more or less ornamental.

We have all heard of the wonderful examples of *Lilium auratum* at Duneevan, and I had received many a courteous invitation from Mr. McIntosh to see them or the *Rhododendrons* when they were in bloom. This I was unable to do, but I could not be in the neighbourhood without seeing the place where they grow; and well worthy is it of a visit. It stands in Oaklands Park, and the ground slopes down from the house to a piece of water, called here the Broadwater—in fact a large long pond. Every advantage has been taken of the nature of the ground, and masses of *Rhododendrons* are grouped in every direction, containing the very choicest and best of the sorts in cultivation. Among them in all directions were Lilies, some 11 and 12 feet high, carrying sixty or seventy blooms, and displaying a vigour which I think we may venture to say they have never attained in their native habitat, and compelling me to say, Well, I must come and see these in flower. But although Mr. McIntosh excels in these two specialities, yet his

garden contains many other things which are worthy of notice. Does he grow Roses? Well, in answer to this just let me say that in one of his rooms is a table on which there are arranged 250 specimen glasses of various sizes, and that these are kept filled all through the season with single blooms of Roses; and I rather imagine that anyone who can do this must be able to grow Roses. Like Charles Waterton Mr. McIntosh makes friends with the feathered tribes of his garden. A robin flies up and takes a crumb from between his lips, and a chaffinch is very nearly as tame. All who have met him will not wonder at this familiarity. I have rarely seen a small place where so much is made of it by judicious landscape gardening. Standing at the top of the terrace it seems large in extent, and everywhere fine trees and shrubs meet the eye; and if I am spared for another year I hope to visit it when either one or other of the specialities of the place are in flower.—D., Deal.

### ACACIA RICEANA.

*ACACIA RICEANA* I consider the most beautiful and useful of the entire genus. It is much more graceful in growth than *A. longifolia*, its branches being very slender, and are elegant by their drooping habit. When planted out and allowed plenty of headroom this *Acacia* quickly assumes a tree form, and a more handsome tree it is impossible to conceive. I have also found it exceedingly well adapted for a pillar plant. Its beauty is never seen to greater advantage than when allowed to grow unmolested—that is, without being cut or tied into any stiff form. The flowers are pale yellow or lemon-coloured, and are produced in long pendulous festoons, and however ornamental they may be on the plant, they are none the less so in a cut state, and for this purpose alone it is worth growing in quantity. I may further state that although it succeeds best planted out, it also submits readily to be grown in either large or small pots.—N.

### FLOWERS OF ROSE TREES SMALL.

I HAVE a lot of Roses on the Manetti four years old, which still grow well and flower well, but the blooms are small and lack substance. They have been dressed each year with plenty of fresh rich loam, the top spit of good feeding land mixed with old pig dung and night soil; and as my soil is rather light they have had a good mulching applied in May of littery stable manure. Must I part with my old favourites, or can I restore them by taking them up, root-pruning, and planting in some new ground just enclosed from a pasture field? I always prune closely in March.—MIDLAND COUNTIES ROSE-GROWER.

[I should take up all the old Roses, and not only prune the roots but cut off the old Manetti stocks, for in most, if not all, cases the four-year-old Manetti Roses will have rooted themselves so well above the junction of the scion and stock, that the foster-parent can be discarded and the nurslings walk and do well on their own legs. In case, however, where these roots are not sufficiently strong it would be better merely to prune the Manetti roots and plant in fresh ground. If the grower could regard with indifference the quality of the blooms from those plants for one year, I should recommend him to give them a year's rest. Do not manure the ground, and do not prune the plants, but leave the Roses to grow and form fresh roots; then next year cut very hard indeed, and send them along with every kind of forcing manure applied on the surface, and I shall be very much surprised if those plants do not give him wonderful blooms. If, however, he cannot give them a year's grace, let the manure be put on the surface after planting and forked lightly in after pruning in March.—WYLD SAVAGE.]

### EARLY WRITERS ON ENGLISH GARDENING.

No. 21.

SIR WILLIAM CHAMBERS.

SIR WILLIAM CHAMBERS, of Scottish parentage, was born in Sweden in 1726, but came to England when only two years old, and was placed at Ripon School. On arriving at manhood he became supercargo of a Swedish East India ship, and made one voyage in that capacity to China. On his return he commenced the study of architecture under the patronage of Lord Bute, by whose interest he was appointed drawing master to the Prince of Wales, afterwards George III. His first architectural erection was a villa for the Earl of Besborough at Roshampton. He was afterwards employed in laying out the Royal Gardens at

Kew, where he introduced the Chinese ornaments. In 1771 he was invested with the Swedish order of the Polar Star. He became a Fellow of the Royal and Antiquarian Societies. In 1775 he was appointed to conduct the erection of Somerset House, being Architect to the King, Surveyor General to the Board of Works, and Treasurer of the Royal Academy. In 1758 his style of design, &c., was severely attacked in two satires termed "An Heroic Epistle," and "An Heroic Postscript to Sir W. Chambers." In that Heroic Epistle is observed that "he teaches us that a perfect garden must contain within itself all the amusements of a great city; that *urbs in rure*, not *rus in urbe*, is the thing which an improver of true taste ought to aim at."

"To Richmond come, for see, untutor'd Brown  
Destroys those wonders which were once thy own.  
Lo, from his Melon ground the peasant slave  
Has rudely rush'd and level'd Merlin's cave:  
Knock'd down the waxon vizard, seiz'd his wand,  
Transform'd to lawn what late was fairy land."

The volume which entitles him to our notice is entitled "Plans, Elevations, Sections, and Perspective Views of the



Fig. 59.—Sir William Chambers.

Gardens and Buildings at Kew in Surrey, the Seat of H.R.H. the Princess Dowager of Wales. 1763." In the introductory description of the plates is mentioned that Mr. Kent designed some of the ceilings and chimney-pieces. Sir William remarks that "the situation of the gardens is not advantageous, as it is low and commands no prospects. Originally the ground was a dead flat, the soil in general barren and without either wood or water. What was once a desert is now an Eden. The judgment with which art has been employed to supply the defects of nature and to cover its deformities hath very justly gained universal admiration. The orangery or greenhouse design is mine, and was built under my inspection in the year 1761. The physis or exotic garden was begun in 1760. For the cultivation of the plants I have built several stoves." The thirty-ninth plate is of the aviary and flower garden.

Sir W. Chambers died March 7th, 1796, at his house in Norton Street, London, and was buried in Poet's Corner, Westminster Abbey.

#### ASPECTS OF NATURE.—OCTOBER.

OCTOBER is the last month of the year when Nature is decked in gay attire, and then it is not the gorgeous hue of flowers that enliven the landscape, but the rich and manifold tints of daily changing foliage, which contrast so charmingly with the sombre hue of the Pines and other evergreen trees. Rich red, deep golden brown, and russet green, the leaves still hang on the trees or tremble downwards to the earth, where they lie in

copse and forest in deep layers, covering the numerous wildlings that have rendered the earth gay and beautiful with their spring and summer blossoms. But it is not alone the leaves which light up the sober autumn landscape; the rich ripe berries of hedgerows and trees are now fully displayed through the hourly thinning foliage. Conspicuous among them all is the Mountain Ash, which often grows in the clefts on the sides of old quarries, or in fissures on the hill side, hanging over precipices, and appearing far up the mountain. With berries almost as brilliant as those of the Mountain Ash the wild Guelder Rose is found by the margin of streams and in moist situations, where its scarlet and orange fruit is conspicuous in rich wax-like clusters, and contrasts beautifully with the purple-black berries of the Privet; indeed, at this season the hedgerows are as gay, or even gayer, in many places than in summer. In favoured spots the graceful Berberry puts forth its pendant rosy berries, and on every side may also be seen the rich scarlet clusters of the Honeysuckle and Deadly Nightshade, while the fruit of the Bryony changes gradually from bright green to scarlet, and then to black.

In many of our southern counties where Oak trees abound the gathering-in of the acorn harvest is now in full vigour, and merry parties of women and children sally forth in the early morn with bags and baskets to gather up a store of winter food for their pigs. A moderately high wind after a frost will cause the coveted acorns to patter down thick and fast upon the fallen leaves. The Beech tree also drops its triple-sided nuts, the kernels of which are eagerly sought by the rapacious wood pigeon. The beautiful, smooth, glossy fruit of the Horse Chestnut, untouched by any other animal, is found palatable by the herds of deer that roam over our ever-verdant parks; and the numerous birds that made the air vocal with melody in spring now find a continued feast on Hawthorn bush and Briar. The berries of the Thorn are but little more brilliant than its deep rich red leaves, and these in many places are almost hidden by the trailing Brambles, which still keep a store of slowly ripening fruit, and make long garlands of exquisitely diversified foliage over bank and fence, often disputing the mastery with the rampant growth of the wild Clematis or Traveller's Joy, which is now covered with its downy silky tufts of seeds. Less conspicuous, indeed, from their position, but none the less gorgeous, the lanes and hedgerows vie in beauty of colour with the forest trees, whose

"Virgin leaves, of purest vivid green,  
Which charm'd ere yet they trembled on the trees,  
Now cheer the sober landscape in decay.  
The Lime first fading, and the golden Birch  
With bark of silver hue; the moss-grown Oak,  
Tenacious of its leaves of russet brown;  
Th'ensanguin'd Dogwood, and a thousand tints  
Which Flora, dress'd in all her pride of bloom  
Could scarcely equal, decorate the groves."

But although the beauty of the foliage attracts our attention before anything else at this season of the year, we still have many flowers, but they are small and scarcely to be compared with the fulness and abundance of summer. Foremost among the wild flowers is the Meadow Saffron, or Colchicum autumnale, which decks our fields in the eastern counties when almost the last lingerer of the floral year has departed. Pale her blossoms may be, and unprotected by foliage, but still the very delicacy of this lovely flower, "the orphan of the year," has something in it which reminds us of spring, the flowery joys of which are so lately past that they still linger fondly in our memory, and which a few short months shall bring back to us again ever fresh and new. In winter the seeds lie buried deep in the earth, to burst forth into life and beauty during spring and summer. The seeds of the Meadow Saffron form no exception to the rule; they, too, are buried during winter, but they lie in their bed even when other plants are springing into light and life. It is then that the seed of the Saffron is lifted on a fruitstalk up to the air and sunshine, which ripen and perfect it; and when in the bright and balmy days of June the hay harvest is ready for gathering, the capsules of the seed vessel crack and the seed is dispersed. Thus in the case of the Colchicum the prevailing rule of Nature is changed: the plant blossoms in autumn, and produces its leaves and fruit in the following spring.

Barren as the meadows and lanes appear to a casual observer, we have still many flowers in secluded sheltered spots. Not only does the hardy Cranesbill bloom, but the white Clover is found growing spontaneously in many places which would otherwise be bare. Some say that the white Clover represents the national emblem of Ireland, the three-leaved Shamrock;

but I always understood that the small yellow Trefoil which bears a very small blossom in waste places and little-frequented fields was the true symbol of Ireland, the finding of a leaf having four segments being considered a piece of luck insuring lasting happiness to the finder.

"I'll seek the four-leaved Shamrock  
Through all the fairy dells,  
And if I find the treasure,  
Oh! how I'll weave its spells."

Even at the very end of the month some plants still put forth flowers. The little modest Chickweed blossoms in autumn as in spring, pushing its tiny leaves through the earth and forming a verdant carpet in every available spot. The Daisy, too, we have always with us; less numerous than in summer, "the wee crimson-tipped flower" still "cheers chill October on its way." It is true

"We look abroad into the world, and see  
But few familiar faces peeping forth  
From hood or mantle. Spring's bright flowery train  
And Summer's matron sisters, Autumn's too,  
Are mostly gone; yet still in mead or glen  
Linger some loved ones, smiling to the winds  
That come and go, and hurry forth sere leaves  
From out their haunts."

And even now we find many charms in country rambles. The commons are still bright with a covering of golden Bracken, and here and there the purple Heath has not quite faded from the moorland, and the now sparse blossoms of the golden Gorse speck the open landscape, while

"The fading many-coloured woods,  
Shade deep'ning over shade, the country round  
Imbrown; a crowded umbrage, dusk and dun,  
Of every hue, from wan declining green  
To sooty dark."

—T. S. J.

### JUDGING VEGETABLES.

MANY thanks to Messrs. Taylor and Fairweather for introducing this subject for discussion in the columns of your Journal. Mr. Fairweather concludes by calling on those able to discuss the question. I, for one, do not presume to respond in the above terms; but as the matter has given me much thought, I would on this occasion avail myself of the opportunity of stating my opinions.

Mr. Fairweather cites a case where Cucumbers, Tomatoes, and Vegetable Marrows in a collection beat Potatoes, Peas, and Cauliflowers. I admit there is great difficulty in judging collections where the exhibitor can put in what he likes, and where nearly all the collections are different; but this could be amended. In the exhibitions of fruit who would think of staging a collection in September without having Grapes, Peaches, Pears, Apples, Plums, and a Melon? Now I think this is pretty generally understood. Then why not with vegetables have five or six of the leading and most useful kinds, and let the rest in the collection (as in the fruit) go for what they are worth?

There are one or two more points in judging I would like to call attention to. There are few who have attended shows and paid close attention, but who have been struck with the nature of the awards. I have seen Peas not at all fit for table use placed first instead of Peas of superior merit, because the former was a newer variety. Again, in Potatoes, I have seen a dish of large but ill-shaped tubers placed first, when another dish of the same variety, well shaped, of medium size was placed second. Cauliflowers, too, I think are often imperfectly judged. Large heads—simply because they are large—are placed first, when smaller compact heads of superior quality are passed over. Beet is another vegetable the merits of which are not always recognised. I have seen first-prize roots little better than Mangold Wurtzels, while smaller roots sweet and young were lying on the same board dishonoured. Prizes are generally offered for the best six or twelve Onions. A good Onion ought, in my opinion, to be solid, well ripened, of good form, thin-skinned, and without neck. Onions of this description I have seen exhibited against others twice as large, with white roots sticking to them, with necks projecting 2 or 3 inches, and the large specimens were placed first. I conclude by desiring that less attention be paid to mere size, and more to real quality in the judging of vegetables.—B. G., Co. Down.

### FLOWERS IN LIBERIA.

MOST of the African flowers differ from those of temperate climates in three striking characteristics—viz., brilliancy of

colour, luxuriancy of growth, and in emitting their odour after sunset.

The last peculiarity has been admirably described by Moore in speaking of that lovely native of India—the fragrant Jasmine—

"The flowers that wake while others sleep,  
The timid Jasmine buds, that keep  
Their fragrance to themselves all day,  
But when the sunlight drives away  
Let their delicious secret out."

A rare and very beautiful species of the Jasmine grows in our African forests. The bushes sometimes rise to the height of 10 feet, and are densely covered with large, pinnate, oval leaves. The starry white flowers, with bright pink stems (clustered on what botanists term a cyme), raise their delicate heads in striking contrast with the heavy masses of glossy dark green leaves. Their fragrance is delightful. If we happen to awaken at night in a room where a sprig of this odorous flower has dropped, we are almost inclined to imagine that, instead of the dreadful malaria we strive so much to keep out,

"The sweet south wind  
That breathes upon a bank of Violets,  
Stealing and giving odour,"

has, by some miraculous means, penetrated our closely-shut African chambers. Most aptly did the ancients call this sweet flower the "Odorous Violet."

So much has been written about the majestic Lilies of the tropics that it is only necessary to say that many finer varieties flourish on our coast. Perhaps the most remarkable of these is the White Chandelier Lily, so called from having six narrow petals 4 inches long, pendant from beneath, and six stamens an inch shorter, growing out of the margin of a delicate funnel-shaped corolla.

The Acacia mimosa, said to be a native of the Nile, is a beautiful but fragile-looking tree, from 15 to 20 feet high, with small yellow flowers peeping out from among its branches of fine sensitive leaves, and giving forth a most delicious fragrance.

In passing through the forests we are continually struck by the number and variety of luxuriant vines, so closely interwoven with the branches of tall trees as to form a complete canopy. Most of them are covered with small white flowers, apparently almost too delicate to touch.

Many of the flower-bearing shrubs of temperate climes when transplanted here attain to the height of trees. Some years since a member of our mission brought across the Atlantic a small cutting of the Oleander, from which has sprung a number of stately trees. Some in the garden at Cavalla have already grown full 20 feet high, and are almost constantly covered with double pink flowers, which for richness and beauty surpass anything we have ever seen. A lovely sight it is to see these magnificent trees circled by birds of brilliant plumage.

Enough has been said to convince our readers that flowers, so appropriately styled "the smiles of God," have not been withheld from this land of moral darkness. We earnestly pray that the day may come when these beautiful gifts of our Heavenly Father may be appreciated by a redeemed and enlightened people, and that Africa spiritually as well as naturally, may "rejoice and blossom as the Rose."—(West African Record.)

### GRAPE-GROWING—INFLUENCE OF THE STOCK UPON SCION.

CIRCUMSTANCES alter cases, and a noteworthy illustration of the truth of the aphorism is the divided opinions of practical men as to the behaviour and merits of the Madresfield Court Grape. With some it is only a midseason variety, and the season, too, of briefest span; with others it has been known to hang well and in good condition even into the new year. In a dozen places it is convicted of its besetting fault of cracking; whilst in others it is voted to be perfectly free from that stain upon its character. A minute and careful inquiry into the particulars of soil, situation, and general treatment in each case would doubtless afford the "reason why" this difference of behaviour should manifest itself. Setting aside the consideration of its propensity to splitting, it is unquestionably one of the most desirable Grapes in cultivation when well grown. For size of berry, bloom, and appearance, combined with delicious flavour, a combination of Frontignan and Muscat, it has in our opinion few equals, scarcely a superior. Well, so much for its fruiting properties and fruit value: what is more immediately in hand is something more novel—namely, its

behaviour as a stock for another variety, an interesting instance of which was recently brought under our notice. It is scarcely necessary to tell our readers that Grape-growing at the Vice-regal Gardens is *Al*, or that our valued friend Mr. Smith is a master in this department of his profession. Well, even in that establishment, and in Mr. Smith's hands, this variety played false, would rend its beautiful coat, and thereby be un-presentable at Court. As a consequence, though holding it in the highest estimation for its other good qualities, Mr. Smith resolved to discard it. Instead, however, of uprooting it altogether from the viney, he elected to head it down and inarch it with that grand-looking late variety, *Gros Colman*.

This operation was performed in the spring of last year, the result being a close union and stout well-ripened rod. This year the rod was shortened-back in the usual way, was started, and showed fairly for fruit. The embryo bunches were, however, removed, with the exception of one or so. Thus far all went on well, and now we come to the curious and interesting but by no means satisfactory part of the story—namely, the little-looked-for and less-desired manifestation in the graft of the evil propensity with which the stock variety is so generally charged. In a word, the bunch or bunches of *Gros Colman* had almost every berry cracked in the way as is the wont of the *Madresfield Court*. Here, then, is another curious—a by no means uninteresting, and, as far as we know, unrecorded—instance of the influence of stock upon scion. It is to be hoped Mr. Smith will give the worked Vine a year or two's trial, as it would just now be premature to come to a conclusion as to the demerits of the stock or to theorise as one might otherwise feel inclined to with regard to the explanation of the phenomenon in the present instance. We have never known or heard before of *Gros Colman* showing any tendency to skin-bursting. The thick, tough, and closely adhering cuticle of its large berries is not the one likely to give way, unless under some most exceptional circumstances. Have any of our Grape-growing readers experience or knowledge of showing this disposition? if so, we should be glad to hear it from them to that effect.—(*Irish Farmers' Gazette*.)

### STANDARD CURRANTS.

Not a little surprising is it that the standard form of growing Red Currants is not more widely adopted. The plan is a very old and a very good one. The Americans, it appears, are adopting it in growing Gooseberries, and there is no reason why success should not follow. The system of grafting, however, which is adopted on the Continent and in America is not necessary in growing standard Currants in England. Given vigorous stocks time is no doubt saved by grafting, but really the growing of cuttings into miniature trees is by no means a slow process.

Standard Red Currants are both ornamental and profitable, and the fruit on them is never attacked by birds so persistently as is fruit growing on bushes. I have grown standards for a number of years, and have found them of the greatest value. They take up but little room, are exceedingly fruitful, and unquestionably add to the attractiveness of the garden. The fruit on standards generally ripens before that on bushes, and it also keeps longer. If it is desired to preserve the fruit as long as possible it is easy to place round each separate head a guard of netting. This, however, is not necessary until the fruit from the bushes has been gathered, for the birds will not attack the exposed standard trees so long as any hidden fruit remains on the bushes which they can eat in comparative peace and quietness.

I commenced the growing of standard Currant trees on the score of economy and to save garden ground. My kitchen-garden space was limited, and the demand for Currants could not be met. I could not afford to devote another quarter of the garden to bush fruit, as scarcity in another form—the vegetable supply—would have followed. I therefore raised standards and planted some at intervals amongst the bushes, planting a standard between every third and fourth bush in every third row. The heads of these were formed well above the bushes, and, as I anticipated, the bushes produced as freely as ever, and a large supply in addition was given by the standards above them.

I also planted standards on the wall borders near to the edge next the walks. The trees were planted 18 inches from the walk and 15 feet from tree to tree. The stems were 3½ feet high, and the heads were formed from 2 to 3 feet in diameter. It was surprising the quantity of fine fruit that was

produced by these standards, and with no appreciable loss of ground. True, a root or two of early Potatoes were sacrificed in one part of the border and a few Lettuces in another, but these trifling losses were not felt, while the crops of Currants were a substantial gain. The miniature trees also added much to the ornamentation of the garden, and were generally admired for their appearance.

The trees I raised from cuttings. In the ordinary manner of raising trees from cuttings short-jointed medium-sized shoots are selected, cutting out the lower eyes and shortening the tops of the cuttings to the required height, leaving three or four buds on the top of each. In raising standards I found another plan, quicker and better. I selected the most robust shoots, carefully removing all the base buds, but not shortening the cuttings, leaving the terminal bud of each untouched. These cuttings were often 3 feet long to begin with, and when carefully planted in a north border they invariably rooted and did well. They were put-in in the autumn, and in the following summer made little growth, but in the season following they grew more than the required height, and were shortened accordingly at the winter's pruning and the heads formed.

I found, however, that a season was gained by grafting roots on to the cuttings. A piece of bushy fibrous root was dug up and its thick end cut into the shape of a wedge; this was inserted into an upward slit made near the lower end of the cutting and secured with a piece of matting. When this was neatly and quickly done, and the cutting with its new root planted without any delay, thus avoiding drying, I rarely knew a failure to occur, and the cuttings so grafted grew to the required height the first season.

Standard Currants, of course, require stakes to support them. It is important that these be sound and firm, and the ligatures must also be strong. The stakes must be placed close up to the heads, or during a rough wind the head of the tree may be broken off near the topmost ligature.

Especially to those having small gardens, and who desire them to be as profitable as possible and also attractive, I recommend that they grow Currants as standards along the sides of the walks. These trees will yield a valuable supply of fruit without taking up much ground, and they will also impart a pleasing appearance to the garden.—A NORTHERN GARDENER.

### ON GRAFT HYBRIDS.

BY THOMAS MEEHAN, GERMANTOWN, PHILADA.

[Read before the American Association for the Advancement of Science, at Buffalo, August, 1876.]

OF late years an impression has prevailed that hybrids may be obtained by grafting as well as by seeds. Sachs makes no mention of this in his text-book, but it has had a place in the literature of horticulture for over a hundred years. Bradley says that a variegated Jasmine grafted on a common green stock infused the variegation throughout the whole plant; and there is an idea among some horticulturists that an admixture in Apples can be obtained by uniting two halves of different buds and grafting them together. Thousands of people have laughed at these notions. No one has tried them. But only a few years ago it was found that Bradley was right; and we have in cultivation new variegated forms of *Abutilon*, as well as some other things originated by the graft process. During the past few years it has been asserted that new varieties of Potatoes have originated in this way: A tuber is taken and all the eyes cut out. A wedge with an eye of another kind is then inserted into the eyeless mass and planted. The results are said to be true hybrids. Many of our best physiologists doubt this. I have not seen these cases; but I must say the evidence offered is much stronger than much of that on which some popular theories have been built.

I tried the split-and-grafting process, not believing it would result in a hybridity. I merely wished to test the popular notion. I am pleased to be able to say now that it is correct. New varieties can be obtained in that way. I took the Rhode Island Greening and the Red Astrachan—two very distinct varieties of Apples in every respect. The grafts with a single bud were split as near through the centre as possible, and a piece of each kind fitted together so as to appear one complete scion. Twelve of these were grafted; three grew; two of these have fruited; neither are Rhode Island Greening, and the two are unlike each other; one of these has a flower like the Rhode Island Greening, and the flower of the Red Astrachan is rosy and in many ways distinct from the large white one of the



Rhode Island Greening; but the fruit is, in many respects, similar to that of the Red Astrachan. The second variety has the flower similar to that of the Rhode Island Greening, and the fruit somewhat the colour of the Red Astrachan, ripening about the same time, but is but half the size, very much flattened, and with a slender stem near 2 inches long, and as much like that of a Siberian Crab as can be. There is no doubt but two varieties, distinct from their parents and distinct from each other, have resulted from this graft process. Some may suppose that the union of a Red Astrachan and a Rhode Island Greening Apple should result in producing an exact intermediate, and that the union of buds in several graft cases should each produce identically the same, and therefore the two distinct varieties from the same process be a surprise. But no two children of the same parents are exactly the same; and this is the experience of plant-hybridists.

I do not know that there is any pomological value in the new varieties of Apples I have raised, but I am delighted with the scientific results, proving that hybrids by bud-grafting is more than a popular delusion.—(*American Gardener's Monthly*.)

### PRESENTATION TO DR. HOGG.

On Tuesday evening, the 31st. ult., Dr. Hogg of the *Journal of Horticulture* was entertained to dinner by a number of gentlemen connected with the Gardeners' Royal Benevolent Institution, at Simpson's Hotel, in the Strand. The chair was occupied by Mr. John Lee of Hammersmith, and the vice-chair by Mr. E. R. Cutler, the Secretary. Among the gentlemen present were Mr. Robert Wrench, Treasurer; Mr. G. F. Wilson, F.R.S., Vice-President; Messrs. Herbert Adams, William Paul, E. J. Beale, B. S. Williams, Alex. Dickson, J. Cutbush, C. Turner, N. Sherwood, S. Woolley, G. Brush, Henry Cutler, James Gray, James Webber, &c. After the usual loyal toasts the Chairman proposed the health of Dr. Hogg, whom he said he had known for forty years. In a speech, expressive of great kindness and highly complimentary to Dr. Hogg for the services he had rendered to horticulture during a long period of years, he presented him with the following address, beautifully illuminated on vellum, and enclosed in a handsomely gilt frame:—

"At a meeting of the Committee of the Gardeners' Royal Benevolent Institution, held 2nd October, 1876, it was resolved unanimously that this Meeting desires to convey to Robert Hogg, Esq., LL.D., its best thanks for his kindness in presiding at the Thirty-third Anniversary Festival, held 30th June, 1876, for his great exertions in promoting the interests of the charity, and for his liberality and that of his immediate friends upon the occasion."

The evening was enlivened by some charming songs, exquisitely sung by Madame Marie Belval and Miss Brooks, accompanied on the piano by Mrs. Cutler.

### NOTES AND GLEANINGS.

We learn through the same source which we quoted last week that Mr. Gilbert of Burghley has notified his intention of exhibiting a collection of DOUBLE PRIMULAS at the meeting at South Kensington on the 8th inst. The great value of this section of Primulas for winter decoration and the usefulness of the flowers for bouquets, &c., cannot be over-estimated, and Mr. Gilbert will do good service if he gives an impetus to their further cultivation by the means which he has proposed. An interesting collection of Grapes is expected also to be staged at the same meeting, with other products of special merit.

—THE next dinner of the HORTICULTURAL CLUB is announced to take place on Wednesday, November 8th, and anyone joining the Club now will be entitled to the privileges of membership to the end of next year.

—THE Bristol authorities have seized a large quantity of CURRANTS, value about £7000, which had been brought into port, and which had, it is alleged, become tainted with lead ore, part of the ship's cargo consisting of that substance.

—THE great usefulness of DAHLIAS as garden decorative plants has been particularly exemplified during the mild autumn weather. The large round beds in the grounds of the Crystal Palace have for the last two months been extremely gay with these flowers, and have attracted fully as much notice from visitors as did the carpet and other bedding plants in summer. Latterly the Dahlias have quite overpowered the "fancy" beds by the bold character of the former, and the

purity, richness, and profusion of their blooms. The varieties employed in these beds are dwarf-growing early-flowering sorts of distinct colours, and no one who has seen the effect which has been produced can dispute their value for autumn effect. They prolong the beauty of gardens for six weeks, and are easily preserved and cultivated. They are certainly worthy of being largely grown in gardens generally, for no plants can equal them throughout the month of October. The Dahlias in the beds referred to have been flowering since August, and Mr. Thompson has displayed excellent judgment in planting them so effectively. The varieties we noticed were *Alba floribunda nana*, *Rising Sun*, *Titian*, and *Zelinda*.

—A SPECIAL meeting of the members of the Woolhope Naturalists' Field Club was held at the Free Library, Hereford, on the 25th ult., to consider the question of publishing a "HEREFORDSHIRE POMONA," in annual parts, in continuation of "Knight's Pomona Herefordiensis." The chair was taken by Dr. Chapman of Burghill, the President of the Club for the current year. After an address by Dr. Bull, the following resolution was unanimously adopted:—"That a pomological Committee, consisting of members of the Woolhope Club, in conjunction with the growers of fruit, be formed to investigate the varieties of Apples and Pears grown in the district; to inquire into their origin and history, to ascertain their value and uses, and to name such varieties as are not known elsewhere, and have a really distinct character, with a view to the publication of a 'Herefordshire Pomona,' and that Dr. Hogg, F.L.S., be requested to edit the work. That the 'Herefordshire Pomona' should be published in annual parts, quarto size, in continuation of Knight's 'Pomona Herefordiensis.' That the first part should be issued at the close of next year, 1877; and that it should consist of three or more coloured plates with descriptive letterpress, according to the amount of annual subscriptions received. That the expenditure of the Committee be kept entirely distinct from the ordinary funds of the Woolhope Club, and that a separate subscription list be opened for defraying the expenses of publication. That the price of the parts separately be 10s. 6d. each, to annual subscribers 7s. 6d., and to annual subscribers who are members of the Club 5s. each part." Substantial subscriptions towards the carrying out this laudable object have been promised, an active Secretary in the person of Mr. Reginald Swinburne has been secured, and a Committee composed of the following gentlemen has been appointed:—Mr. W. H. Apperley (Withington), Dr. Bull, Rev. C. H. Bulmer, Mr. H. C. Beddoes (Hereford), Mr. John Bosley (Lyde), Sir Herbert Croft, Bart., Mr. Thomas Cam, Mr. John Cranston (King's Acre), Dr. McCullough, Rev. James Davies, Mr. J. T. Owen Fowler, Mr. Hall (Garford), Mr. F. H. Herbert, Mr. William Hill (Eggleton), Mr. W. Jay (Lyde), Mr. George H. Piper, Mr. Pitt (Bosbury), Rev. J. C. Robinson, Mr. James Rankin, and Mr. W. A. Swinburne. Under such auspices this important undertaking can hardly fail to meet with success.

—IN another column is the record of a visit to a FRENCH VINEYARD. The visitor further refers to another vineyard, that of Baron Sarget at St. Julien. This formerly belonged to M. Gruaud, who built himself a tower from whence he could obtain a bird's-eye view of his Vines. From this tower he hoisted signals by which the story of the wine year might be known at all the ports of the world. If the captains of the trading vessels as they passed along saw a French flag hoisted on the Gruaud estate, they knew that the wine was good but light in quality; if the Dutch flag was floated the wine was known to be light, but of rather a superior quality; but when the English Union Jack was seen proudly waving there was great rejoicing, for it was a token that the Gruaud wine had plenty of body, and that it was a first-rate year. That was prior to the days of the electric telegraph.

—IN the report of the ARCTIC EXPEDITION is noticed the most severe cold which has ever been registered, the "temperature being 59° below zero for a fortnight. The extreme lowest temperature on any day was 104° below freezing point." Something like a frost. Some Wheat sent out in the "Polaris" four years ago, in order to ascertain whether it would deteriorate when exposed to extreme cold, has been grown successfully under a glass shade by Dr. Belgrave Ninnis.

—REFERRING to the AWARDS at the CENTENNIAL EXHIBITION, the *Philadelphia Press* states that "the excellent assortment of galvanised wire netting exhibited by Messrs. J. B. Brown & Co. of London, England, has obtained the sole international prize medal. Messrs. Brown & Co.'s collection of

English wire netting is, we believe, the most remarkable that has ever been shown in this country. It has been produced by improved machinery, which has not as yet been introduced into the United States." Awards have also been made to Messrs. Parks of Hitchin for oil of lavender; to Messrs. Veitch and Sons for trees, shrubs, and other plants; to Mr. R. Warner for two books ("Orchidaceous Plants"); to Mr. A. Waterer, Woking, for trees and shrubs; and to Mr. B. S. Williams for hothouse plants and Ferns.

— THE DAHLIAS in the neighbourhood of St. Albans were cut down by frost on the morning of the 25th of October.

— ON the 29th of October the Lord Mayor entertained the chief members of the FRUITERERS' COMPANY at the Mansion House. They had presented as usual the dessert, and the Lord Mayor complimented them on their varied collection of fruits. There was not very much, of course, in the fruit except its beauty, but there was a great deal in the kindly feeling which prompted the Fruiterers' Company to make that annual offering to the Lord Mayor of the day. As the custom had endured for ages, so it was likely to continue for generations yet to come, for there was no reason to anticipate any outbreak of hostilities between the Fruiterers' Company and the Corporation which would be likely to interfere with the annual offering. He regarded the Fruiterers as among the most pacific of men, their love for the cultivation of fruit and flowers tending to promote all the better feelings of human nature. He would ask the guests, therefore, to drink "The Health of the Fruiterers' Company," for by so doing they would only be giving them their desert. Mr. Stroud, the Master of the Company, acknowledged the compliment, and thanked the Lord Mayor for his hospitality on the occasion, which was always, he said, a magnificent return for their simple annual offering. He traced the custom which was being observed that evening through a long series of centuries, if not, he said, to the time when "Adam delved and Eve span."

— We read in the *Independence Belge* the following—"In a garden at Billancourt, the property of M. Carlin, locksmith, may be seen at the present moment an Apple tree loaded with fruit. There is nothing extraordinary in this, but the stock of the tree is Cherry, on which has been grafted the Apple, a species of Golden Pippin. The fruit precisely resembles Cherries—the same stem, the same size, the same form, and nearly the same colour, but its taste is that of an Apple, and it contains pips instead of stones. Specimens of this botanic phenomenon were yesterday submitted to our inspection. It must be a real curiosity, for it is generally thought impossible to graft a pip-bearing fruit on the stock of a tree bearing stone fruit."—[The only thing marvellous about this is that the narrator should have stated that the fruit produced by the graft was a Cherry instead of the Cherry Apple, and that he should not have satisfied himself as to the stock, which if he had examined he would have found to be an Apple. The Cherry Apple is the same as the Scarlet Siberian Crab.—Eds. J. or H.]

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

So far Scarlet Runners have afforded good pickings, but the nights have recently been too cold for the blossoms to set, and the supply of pods is exhausted. The late Mr. Robert Fish used to protect his Scarlet Runners and Dwarf Kidney Beans by running two rough straw ropes along the rows near the top. This would certainly be of advantage on a calm night in protecting them from frost, but in mild damp weather the straw ropes would do more harm than good, because they would prevent, to a certain extent, the free circulation of air, and would also shade the Beans from the sun. The ropes could be removed, however, in such weather, and be replaced when frost set in.

We have planted-out Cauliflower plants under hand-lights, one at each corner, and one or two in the centre. The centre plants will be removed in the spring and planted in the open ground. Another lot of plants have been placed in a cold frame. Such plants must not be coddled by keeping the lights on in fine weather, and if it is necessary to protect the plants from heavy rains the lights ought to be tilted sufficiently to allow of a free circulation of air. Late Cauliflowers that are now turning in may be protected by bending a leaf over the heart, for if the Cauliflower is exposed to frost it will be quite spoiled for use; but a leaf or two can be easily bent over, and no injury will then result from a few degrees of frost.

We have, after clearing off the stems of Asparagus, given the ground a good dressing of rich manure, and just put enough fine soil over it to prevent evaporation. The usual plan pursued with Asparagus beds is to dress them with manure, and then throw the soil from the alleys over the beds in the spring. We have been tolerably successful so far by planting in rows on a level surface and giving the plants a good dressing at this time, and there is always plenty of soil to cover over the manure. The plants were put out 18 inches apart in the rows and 2 feet 6 inches between the rows. This is quite close enough to give the plants justice. The first year or two after planting it was necessary to provide sticks to each plant to prevent the stalks snapping off close to the surface of the ground, as many will do if this precaution is not taken. If the stalks are broken early in the year before the buds are formed for next season, the crop on the injured plants will suffer considerably.

### MUSHROOM HOUSE.

This structure has not yet required to be artificially warmed, and the Mushrooms are of very good quality. Covent Garden Market is at present well supplied with excellent button Mushrooms and large succulent specimens for broiling at a cheap rate. Sometimes a bed will continue to bear a succession of Mushrooms for a long time, while another bed treated in the same manner will produce a good crop, which comes in with a rush and lasting but a very short time. To provide for such contingencies a bed should be ready two or three weeks after the previous one to ensure a supply. All Mushroom houses should be large enough to allow of a succession of beds. The most frequent cause of the beds failing to produce a crop after having been spawned properly, is overheating from manure that has not been sufficiently worked by turning. It is easy to blame the spawn or anything else, and to ignore the true cause. A thermometer ought always to be used for a test, as the hand is very uncertain. Always allow the temperature to fall to 85°, and there will be no danger unless the material of which the bed is composed has become too wet, which is another evil to be avoided. From 55° to 60° is a very good temperature for the house.

### VINERIES.

"In many places it is quite necessary to place a considerable number of plants in the house where fruit is still hanging. Of course, in very large establishments, where there are houses for plants independent of the vineries, this is not done, nor should it be. When it is necessary to water the plants the morning is the best time, and a little artificial heat ought to be used to dry up superfluous moisture; in fact, all moisture is superfluous that falls on the paths or borders of the vinery at this season. If heat is turned on to heat the hot-water pipes to dry up moisture, it ought to be turned off again by one o'clock in the afternoon; no attempt ought to be made to dry up moisture towards night. When the weather is mild, and there is no dew-fall at nights, it is as well to leave the ventilators open a little. When there is much moisture in the air at night the house must be closed; the ventilators ought also to be closed during the prevalence of thick fogs. We have in previous numbers insisted on the necessity of removing all mouldy berries on their first being attacked.

Our early houses are all cleaned, the Vines washed, and borders surfaced, so that forcing may be begun at any time that may be deemed desirable. It is a very good plan, and has been followed here with the best results, to place some stable manure, or fresh manure mixed with fallen leaves of trees, in the house to ferment and throw off a moist heat. A good heap of fermenting material will warm the house a few degrees, also the ground to a certain depth; and the moist atmosphere caused by the ammoniacal vapour being thrown off is just what the Vines require to cause the buds to break freely so early in the season as this. From 45° to 50° is a sufficiently high temperature to start with. This may be increased 5° in the course of a few weeks, but we do not care to raise the temperature of the house higher than this until the buds show signs of starting into growth. These heaps of fermenting material are very useful for plunging pots of all sorts of early-flowering plants. We put some cocoa-nut fibre refuse over the manure in which to plunge the pots. The bed very frequently becomes hot enough to kill the roots if they are put too deep into the material. It is very necessary to guard against this. Roses, Lilacs, Deutzias, and other early-flowering shrubs do well thus plunged in the vinery, but they must not have more heat at the roots than 85° early in the season. We also put in a batch of Black Prince Strawberries in the early vinery.

### PEACH HOUSES.

There is not much to do in these structures at this season, and those who have much Peach-house accommodation will be able to store bedding plants, and also specimens intended for the greenhouse, until the Chrysanthemums have been cleared out of the latter structure after flowering is over. The Peach trees will take no harm if the plants are clean, but if they are infested with thrips, red spider, scale, or mealy bug, then it is a great mistake to put them in any fruit house.

It is now time to see that the "maiden" Peach and Nectarine trees are potted. Those who grow trees in pots will find that a few of the trees annually become unsightly owing to the under branches decaying. We never use pots larger than 15 inches inside diameter, and trees will do well for eight years; but after that age it is most desirable to throw them away and have younger trees to take their place.

#### PLANT STOVE AND ORCHID HOUSES.

It is now the resting period for all, or nearly all, hardwooded plants. They do not require a very large supply of water at this season, but it is well to keep the soil moderately moist, as neither stove nor greenhouse evergreen shrubs are benefited by the drying-off process. On my remarking the other day that a plant wanted water, a young man replied, "I should have thought if I had watered that plant it would have killed it." Now it does not follow that if a plant is watered before it is quite dry that any injury will result to the plant. Indeed it is a mistake to allow any hardwooded evergreen plant to become very dry at the roots. Injury will certainly result if the plants are persistently over-watered, owing to the compost becoming sour; but injury and sometimes even death to plants is caused by allowing them to become too dry, and often when plants are found in this state water is given in abundance to them, but too late, for the small hair-like fibres have been destroyed, and the roots are not able to absorb the moisture, and therefore the more water they receive the worse it is for them until fresh rootlets are formed. Hardwooded plants will do with less water now than they will in the early spring months. A dryish atmosphere is also the most suitable for them.

The earliest Poinsettias have set their flower buds, or more correctly the period has arrived when the floral bracts are in course of formation. They have now been placed in a higher temperature, and require a fair supply of weak manure water. We have cut back the climbing plants trained to the roof to allow as much light as possible to the occupants of the stage underneath.

In the intermediate Orchid house *Lælia purpurata*, *Cattleya Warneri*, and others just now making their growth, should be placed at the warmest end of the house and receive rather more water than those that have ripened their growth. Most of the deciduous Dendrobiums have made their growth, and some of them have shed their leaves. Just enough water should be given to such to keep the pseudobulbs from shrinking. If the temperature is high and the roots are kept moist at this season some of them will start into premature growth. Dendrobium nobile should be rested in the greenhouse. In the cool house *Masdevallia Harryana* and *M. Veitchiana* are making their growth, also many species of *Odontoglossum*: these require a good supply of water at the roots; indeed they must not be dried-off at any time.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, Chester.—*Catalogues of Roses and Spring and Summer Flowering Perennial Plants.*

André Leroy, à Angers (Maine et Loire), France.—*Supplementary Catalogue of Fruit and Ornamental Trees, Roses, Bulbs, &c.*

George Cooling, Rose Nurseries, Batheaston, Bath.—*Catalogue of Roses and Fruit Trees.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

JERSEY (St. Helier's) (Chrysanthemums). November 8th. Col. H. Howell, Hon. Sec.

SOUTH BERMONDSEY (Chrysanthemums). November 18th and 14th. Mr. D. Jewies, Rosedale Arms, Rosebury Street, Bermondsey, Sec.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

WIMBLEDON (Chrysanthemums). November 16th and 16th. Mr. P. Appleby, 5, Linden Cottages, Hon. Sec.

BRIXTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Goldsich, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

SEEDS (Palms).—We cannot recommend seedsmen. Any one of those who advertise in our columns could supply those you name.

BED OF SHRUBS FOR NORTH ASPECT (Paragon).—The shrubs are good,

and so is the arrangement, but we question whether its formality would not eventually prove offensive. Why not plant the entire bed with Rhododendrons? They will answer well in your sandy loam and thrive in the shade better almost than any other shrubs. The elegant evergreen foliage is always pleasant to behold, and a few choice sorts would afford an annual floral display of such beauty as can be had from no other plant or shrub in such a situation.

CULTURE OF LILIUM AURATUM (John B. Boyd).—As none of your bulbs appear to be strong we must carefully shake off most of the old soil and forthwith plant the whole of them in pots in soil consisting of old turf sods and fibry peat and a small quantity of sand, letting the tops of the bulbs be about an inch below the surface. Plunge the pots in ashes in a cold frame till the spring, then when the stems are a few inches high and the roots touch the sides of the pots take the plants which you wish to establish permanently in open beds and borders and turn them out of the pots into carefully prepared stations 2 feet square, and of the same depth of a mixture of peat, loam, and leaf soil. Let the top of the bulb be 4 or 5 inches below the surface, and do not let a weakly growth during the first season induce you to disturb the bulb; only exercise a little patience, and you will be well repaid by the stout vigorous growth of the second year, pointing to yet more satisfactory subsequent results. The bulbs which you wish to retain in pots may be repotted in spring should they appear to require it, the condition of the growth and roots being a safe guide in this matter. After shifting replunge the pots in a bed of ashes in the open air, and keep them there till the flower buds are well developed, when the plants may be removed to the conservatory or other building in which you wish them to flower. Lilies grown in pots must have a liberal supply of liquid manure, say three times a week, and that for plants large or small to become fully developed and to yield fine flowers they must have pots in proportion to their size. One word more: if the summer prove very sultry, and there appears to be any risk of the foliage turning brown, remove the plants into shade for a time, but otherwise they may remain undisturbed till the flowering season.

TREES AND SHRUBS FOR AN ISLAND (An Old Subscriber).—Tall-growing trees are not very suitable for a small island. We have tried Birch and Holly, but neither have answered very well. Willows of all kinds and Alders answer perfectly, growing with great rapidity. We do not recommend these, but altogether prefer a mass of Rhododendrons, relieved by an occasional plant of Pampas Grass, and with a bold fringe of *Osmunda regalis* coming close down to the water. To impart variety to the fringe, both the purple *Loosetrife* (*Lythrum Salicaria*) and the yellow-flowering Flag (*Iris Pseud-acorus*) grow to a large size and give flowers abundantly when planted in the pond bottom with a foot of water above the roots.

FORCING VINES AND STRAWBERRIES (A Novice).—Prune the Vines immediately after most of the foliage has fallen; accelerate this by shaking the trellis to which the rods are trained. Remove loose bark and dress the canes with Fowler's insecticide. Thoroughly cleanse every part of the interior of theinery, and see that the roof is quite sound. To have ripe Grapes by the end of May close the house the third week in December and maintain a steady temperature of 50° for a fortnight, syringing the Vines daily with water of the same temperature as that of the house. Raise the temperature gradually, so as to bring it up to 60° at the end of another fortnight. Maintain this heat for a like period, and so proceed till you reach the maximum fire heat of 70°. Much rather would we press on the Grapes after the period of stoning than at any previous stage, knowing as we do how mischievous is the effect of too high temperature when the growth is very young. Strawberries started with the Vines will give ripe fruit in March.

KIDNEY BEANS FOR CHRISTMAS (Idem).—Osborn's New Forcing is the best sort of Kidney Bean for pot culture. It is a capital cropper, and so dwarf and compact in its growth as to require no stakes. Sow the seed immediately and keep the temperature at 60°. Do not lose a day now. Our second batch of pot plants sown the third week in September usually affords good pots till Christmas.

TRAINING PEACH TREES (R. F. B.).—You may train the trees downwards from the top, but the wires ought to be fixed not less than 10 inches from the glass. It is too late to shift Camellias into other pots. You may pot them before starting into growth next year.

WINTERING BEDDING PLANTS (W. T. D.).—The plants of *Ageratum*, *Lobelia*, *Nierembergia*, *Campanula gracilis*, and *Senecio elegans* should now be taken up and potted in fibrous loam with a little leaf soil, reducing the plants to a convenient size, removing the old flowering parts and retaining the young growths at their base, and taking up the plants with moderate-sized balls. They should be kept rather dry, having no more water than to maintain the foliage fresh, especially as your house is cool, but we presume frost is excluded. Many growers raise *Ageratums*, *Lobelias*, and double *Groundsel* from seed, thus dispensing with the trouble of wintering old plants, and economising space.

VIOLA ODORATA PENDULA (Idem).—It has been advertised in our columns under the name of "New York." We may say that it is a very desirable sweet-scented double-flowered kind.

CONSTRUCTING FORCING PIT (A. Taylor).—We think you have given the house too little height in the centre. We should have it 6 to 13 inches higher, or 7 feet 6 inches to 8 feet, and the side walls will need to be 3 feet high; but you may sink the pathway, so as to give the head-room required, as you would find a shelf over the pathway very useful for small plants. The wooden ventilators are no doubt introduced for economy. Lights would be better, and as you have no side ventilation the width you name is not sufficient. The width of the light should not be less than 18 inches, and this to open the whole length of the house. Wooden shutters obstruct light, and in winter you will need all the light possible. We should have a stage or bed for the plants, with its surface about 9 inches lower than the side walls. The ends would be best of glass above the height of the brickwork of the side walls. Two rows of 4-inch pipes will be required all around the house; or if you must omit the ends on account of doorways, have three rows of pipes along each side, it being true economy to have plenty of piping. To heat a similar house to a greenhouse temperature a 4-inch pipe all around the house will answer admirably, or if the ends are omitted have an additional pipe along one side.

SELECTED VINES (J. F.).—Three Vines that may be grown well in theinery with the Black Hamburgh are Madresfield Court, Buckland Sweet-water, and Dr. Hogg; the latter has a rich Muscat flavour.

MAKING AN OSIER BED (V.).—Your ground being wet is all the better for the purpose, but water must be prevented standing on the surface. The Willows would grow were you to have open drains out 12 to 15 inches deep at

about 21 feet apart, sufficient only to rid the surface of water; and if you do not object to the expense the ground would be better trenched, though the cuttings or plants would no doubt grow without preparation, yet the grass and other weeds would be better turned under. Instead of cuttings we should plant what are known as one-year cuttings, in rows 3 feet apart and 18 inches apart in the rows. The cuttings, if you put them in, should be a foot in length, three-quarters of their length being inserted in the soil. There is a great variety of Osiers—namely, Green or Common, Dutch or Red, Yellow, Purple Basket, and Red Basket. The first and last are probably most in demand.

**MANAGEMENT OF LATE VINES** (*A Constant Reader*).—In the first place you must see that the roof of your house is made watertight. If there is much drip it will be impossible to keep Grapes late. You will constantly see instructions as to the management of the house in "Doings of Last Week." We have never grafted Lady Downe's on Black Prince, but you might try and let us know how you succeed. You might also search Lady Downe's on two of the Black Hamburgs. The best time to inarch would be in early summer, when the young wood is becoming hard, but before it changes to a brown tint. Lady Downe's is the best late Grape. Alicante and Gros Colman are also useful. Trebbiano and White Tokay are the best late white Grapes.

**GREENHOUSE PLANTS FOR EXHIBITION IN AUTUMN** (*A Subscriber*).—*Flowering*: *Bouvardia longiflora* and *B. Vreelandii*, *Crocea saligna*, *Erica aristata*, *E. Marnockiana*, *E. Massoni major*, *E. Turnbullii*, *Lapageria rosea* and *L. alba*, *Statice Holfordii*, *S. profusa*, and *Kalosanthis coccinea*. *Foliage Plants*: *Beaucarnea recurvata*, *Chamaecyparis humilis*, *Cycas revoluta*, *Dasylium gracile*, *Cordylina indivisa*, *Lomatia elegantissima*, *Macrozamia Fraserii*, *Phormium Colensoi variegatum*, *Phormium tenax variegatum*, *Sarracenia darwinii*, *Yucca quadricolor*, and *Y. aloifolia variegata*. Some of the Australian *Ternstroemia* and *Zamia* also are handsome plants for exhibition purposes, and would be admitted in a class for foliage plants.

**DISTORTED SCARLET RUNNER STEM** (*J. Wallis*).—Many plants, especially *Asparagus*, are liable to the same distortion. It is termed fasciated, but the cause is not determined.

**WALNUTS** (*S. White*).—They are good nuts, but not superior to many others, nor so fine as some. If you sowed them they would not produce trees bearing similar nuts, nor bear at all for many years.

**CLIMBERS FOR CONSERVATORY** (*J. B. South Hackney*).—Your question is difficult to answer without knowing the size and position of your trellis, and whether it is shaded or otherwise. As a conservatory climber two plants give greater satisfaction than a well-grown *Marcel Niel Rose*. *Lapageria rosea* and *L. alba* are amongst the finest of wall plants. *Mandevilla suaveolens* is also suitable. As rapid growers, *Cobaea scandens variegata* and *Tacsonia Van Volxemii* are effective. *Ficus repens* is close and dense, and very useful for cutting from as *Heliotropes* and *Plumbago capensis*. Cuttings from the hoots of horses may be advantageously incorporated with the soil of your vine border.

**POLLEN** (*J. H. E.*).—Pollens are too much alike for us to detect what flower has yielded your specimen.

**KEEPING WALNUTS** (*A. M. G.*).—To keep them fresh and dry there is no better method than storing them in large stoneware jars in layers, alternating with layers of sand. The jars to be placed in a cool cellar.

**GRUBS** (*A. H.*).—No grub remains always a grub, it becomes a chrysalis, and then a winged insect, the female of which lays eggs that produce the grubs. Those at the roots of your Fancies and Cabbage plants are probably the larvae of a saw-fly or moth.

**CATERPILLAR IN APPLE BRANCH** (*W. Nott*).—It is the larva of the wood leopards moth, *Zeuzera aeneola*. It is common.

**NAMES OF FRUITS** (*J. Clow*).—Golden Winter Pearmain. (*Connaught Subscriber*).—2, Scarlet Nonpareil. *Pears*: 1, Madame Trevo; 2, Jersey Gratioli. *Plum*: Coe's Late Red. *Pear*: *Susette de Bay*. We do not know the rest, and cannot name so many for one applicant. (*Rolls*).—1, Claygate Pearmain; 2, Delaware; 3, Norfolk Beauty; 4, London Pippin.

**NAMES OF PLANTS** (*Iris 2*).—We cannot name plants from leaves only. (*H. A. F.*).—*Maurandia Barclayana*. (*Mrs. Frank*).—*Parsley-plant* is the Field Lady's Mantle, *Alchemilla arvensis*. It is portrayed and fully noticed in our "Wild Flowers." (*T. P.*).—A dark and good variety of *Ceanothus azureus*. Cuttings of the young shoots strike readily in sandy soil, placing the pots in a close frame. The plants should be grown in pots until they attain a good size, and then be planted at the front of a south wall. They need the shelter of a mat in very severe weather. (*Elsie*).—*Gymnogramma ochracea*; *Cassebeera triphylla*. (*Wm.*).—*Aspidium coriaceum*. (*Bathgalensis*). 1, *Scelopendrium vulgare bifidum*; 2, *Polypodium cambricum*; 3, *Pteris cretica albo-lineata*; 4, *Aspidium angulare*. (*J. M.*).—*Iris foetidissima*. (*Quevego*).—1, *Lastrea dilatata*; 2, *Polystichum angulare*; 3, *Asplenium*, sp.; 4, *A. marinum*; 4, *Blechnum orientale*; 5, *Doodia media*. (*J. W.*).—A species of *Thibaudia*. (*Constant Reader*).—*Maxillaria picta*. (*Iris*).—1, *Buddleia globosa*; 2, *Thuja occidentalis*; 3, *Muhlenbeckia* sp. ?; 4, *Solanum* sp. Specimens poor.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### POULTRY SALES.

THERE has been a great depression in the sales of prize poultry of late. Everyone nearly has remarked it, and over and over again we have heard the subject mentioned at the shows which we have attended. To keep up a large yard of exhibition fowls, or even to breed and bring up to the exhibition standard only a few birds, requires a very considerable outlay. All fanciers consequently, whether they be only working men who keep a few birds for their hobby, or whether they are the owners of vast estates who keep their exhibition poultry because they like to be great in everything—whatever they are, all like to have the expenses of their poultry recouped. This used to be done, and though we never could believe the wonderful sums were really made which we heard about, still without doubt the sales of many surplus birds prevented actual loss, and often put money into the pockets of the breeders. Those times, we learn,

seem to be passing away, for there seems to be a complete glut of prize poultry in England at the present time. Someone said to us at Oxford that supposing the "new disease" carried off some hundreds of birds, it would be all the better eventually, for the supply had very much exceeded the demand. We do not know if this is so with all breeds, but we fancy not; Dorkings especially we believe will always command a ready sale. There seems some hereditary fame about the egg-producing and sitting properties of this breed, and, in the castle and the cottage, all who know a cock from a hen stand up for the English Dorking. Great fancy prices may not often be obtained for this variety, but there seems to be a ready and continuous demand for specimens not up to exhibition form for farmyard stock which no other breed enjoys so much.

The question then naturally arises, What is the cause of this depression in the sales of fancy stock? We think there are several. We put aside entirely the reason which we have heard lately suggested so frequently, that from the dulness of trade and business there is not the same proportion of money to be expended upon this hobby; we lay that aside, because with very many it is not the case, and because we noticed it coming on when trade was in its most flourishing condition.

Then we come to another cause, and that we are assured by very many experienced breeders of many years' standing is the real source of all the mischief; we allude to the selling classes. At exhibition after exhibition we are begged by our greatest authorities to try and stop the sale classes. We assure them we can never do it, for we do not believe it is to be done; but at Oxford last week we were once more formally begged to write against this system. We do it without a shadow of hope of effecting much good, for the sale classes pay well; and where the classes pay it seems ridiculous to imagine that the show authorities, with whom alone the matter lies, will themselves try to quash the most lucrative portion of their schedule. Still, we believe with those who have set their backs against the selling-class system, that they often do much harm; for fanciers frequently wait to buy through some sale class of this description, where they imagine they can procure something good and cheap, instead of applying to someone who will probably charge them a few shillings more but send them a bird of superior quality. With birds purchased out of these classes, however, there is much disappointment, for even if a specimen is entered in the name of some well-known breeder, who is to know if he really bred it or not? and often a bird so purchased brings in a bad cross and spoils the whole year's breeding, and sometimes makes a new beginner throw up the whole thing in disgust. Mr. T. C. Burnell, in "The Exhibition Dorking," advises no one to procure stock for breeding out of sale classes. Breeders cannot afford to do it. They cannot put two or three good birds in a class for 40s., as sometimes has to be done; the quality so found therefore must be poor, though to the uninitiated it may seem a tempting bargain. Perhaps the selling classes at those the very important exhibitions do not do so much harm as those at the smaller shows, for at the Palace, for instance, the chance of a good prize, and the knowledge that the birds will be put up to auction, tends to procure good specimens; but it is at the smaller shows where the mischief is done, and we ask committees who do not find their sale classes remunerative, as we conclude some must do, to try and make a beginning by no more inserting those classes in their schedules. We do not object to the £5 ss. classes as at the Crystal Palace, as for that sum a good pair of birds should be obtained. When we think that at the late Crystal Palace Show close on five hundred pens of birds were offered at £2 a pen through these mediums, all will readily see to what a pitch the sale-class system has now arrived at. As we cannot expect the managing powers themselves to give up these most profitable classes, it lies with breeders and exhibitors to see whether they, by patronising less these cheap ways of parting with their birds, cannot once more try to bring the value of good specimens up to the old rate. It is not so much that we want to see unnatural prices given again for fancy fowls, but what we think is, that new beginners by buying really rubbish get disheartened, and, instead of helping to cement closer together the members of an innocent amusement, in their disgust do harm to the fancy by running down the birds purchased and the characters of the vendors.

Lastly, we come to one more reason which we think a very powerful one. It is that so many hundreds of imperfect birds are annually allowed to live. They are not half slaughtered enough. The birds are allowed to live in the hope that they will some day out-grow their infirmities, and they never do, so perhaps they are sold at a small price, and go to form the nucleus of a fresh exhibitor's yard, and only bring terrible woe upon him. It is not the great exhibitors who refrain from killing. They know better. They have a reputation and a name at stake, and those it is who feel the depression in the sales of birds so much. They kill right and left birds with hocks, with wry tails, with crooked claws, with imperfect plumage, with crooked combs, with bad shape. Such birds are made into pies and pasties, and are never allowed to go abroad and injure a fair reputation;



and how can such afford to sell a bird at a few shillings? It cannot be done; and until the selling-class system is modified, and imperfect birds more readily slaughtered, we despair of seeing a return of the halcyon days when one's hobby not only was an amusement but allowed both ends to meet.—W.

### OXFORD POULTRY SHOW.

Without any doubt whatever the Show just over at Oxford has been one of the greatest successes ever experienced by any society. With an able Secretary, energetic Committee-men, and a good prize list, the Show has gradually worked its way on, and now in 1876 we consider that it most certainly ranks only second to the Crystal Palace Show. Could only space be found to allow of the sexes being divided and classes added for old birds, there is no knowing where this Show might end, for as it is two thousand pens are quite enough for the buildings. The quality was wonderfully good throughout, and in most cases we thought the judging quite up to a fair average. The birds were most carefully seen to; the soft food, green meat, and sods of turf for the Game cocks being all admirably arranged. No one was admitted till after the awards were made, and consequently all were in the same boat, whether present in the town or not. Mr. King superintended the birds in the Corn Exchange, and Mr. Salter the Pigeons and Bantams in the Town Hall, which latter building was tastefully decorated with flags and shields. We now pass to the awards.

**Dorkings.**—In Coloured, as a pair, we think our choice was for the second-prize pen, but the cock had a double toe nail, which may have gone against him, or else he was a grandly-grown cockerel. The cup cockerel was large and good in feet, but the hen was small. Third were good birds and fully matured; while the fourth went to a capital pair good all round, and we liked them much. We were sorry to hear Mr. Burnell's pullet had died. In Silver-Greys the cockerel was a fine bird, beautiful in shape and colour, with a good pullet. Second also good, and we thought we liked the cockerel as well as the cup bird. Lady Dartmouth and Mr. Cresswell each sent a very good pullet. In Whites the Ipswich cockerel was first with a fresh pullet. He was very showy, and is, perhaps, the whitest Dorking we ever saw. Second and third were much larger, but not so pure in colour. Blue Dorkings appear to improve. The cup pair matched well. The breed seems to acquire size and the Dorking squareness of shape.

**Spanish.**—This was a small class and a poor one, though the cup pullet was a good bird. We liked Mr. Beldon's pair, and would have placed them before the third-prize pen.

**Cochins.**—These made four grand classes. Buffs especially were very good. The first and second Buffs were very even in quality, though some preferred the second-prize pen. Their colour was pure and even, and they had good feathering and abundant fluff. The third were very poor, and we far preferred some other pens. Excepting the first and second cockerels the pullets struck us as being better than their companions. In Partridges we liked the first cockerel; he was smart in shape and good in colour, and much reminds us of the bird we have seen Mr. Percival show. The second pullet was a pretty one, but we dislike the legs of the second cockerel. We saw him before in the same position at Ipswich. Blacks made a good display, and we noticed that all either had spindly-shaped hocks and legs, or enormous hocks. They seemed, too, so much wilder than other Cochins, and to dislike being handled. The first pair were very fluffy and good in colour. Second a fair pen, rather larger than the third, otherwise not so good in colour. Whites made a fine lot of a dozen pens. We did not admire either of the first or second cockerels, they were too creamy and tailless. The second pullet was a beauty. As a pair we liked Mrs. Tindal's, only we do not like the cockerel's comb. He is the cup Aylesbury and first Ipswich bird. We liked Lady Dartmouth's pen very much, and had the cockerel only more leg-feathering should have felt inclined to place them near the top of the tree.

**Brahmas.**—The first Dark pullet was good in pencilling, and the cockerel was large and massive, but had an imperfect wing. Second pullet also good. Third and fourth good pairs of birds of fair quality, but no bird in the class had the stamp which Mr. Lingwood showed in 1874 and 1875. We very much admired the pens of Messrs. Pritchard, Garner, and Birch. In Lights the first cockerel was a grand bird, but too high in tail, or else of wonderful symmetry and carriage. His pullet was of good colour and large, and only wants more distinct markings in her neck hackles. Second pullet good, and the third cockerel promises to make a grand bird. Mrs. Holmes sent a pretty but rather small pair, as too did Mr. J. Bloodworth.

**Game.**—These classes were first-rate. We liked the awards fairly. The condition and bloom of the £10 10s. champion was good, but we heard many Game fanciers object to the award. Mr. Matthew's and Mr. Dutton's cockerels all were much harder in feather. All highly commended birds were almost worthy of prizes, so good was the quality. The first Brown Red cockerel was very grand in colour and carriage, and had his comb on.

The same owner's undubbed Duckwing was also a splendid bird—grand in colour and fine in shape. The Brown Red pullets were well selected, and were a good lot. The second we especially admired. Undubbed cockerels were superior. A Brown Red won first. He was of lovely colour, and stylish in carriage. A Brown Red also won second, while a Black Red took third honours. We were glad to find the class so well filled, and thank the guarantor for his share in this good work.

**Hamburghs.**—We did not think them quite up to the standard of other years. Roup was observable in many pens, and many birds looked pale and jaded; but there was a wonderful improvement in the honesty of the combs. Many objected to the first Golden-pencils, but we did not think them so very bad, though certainly the third pullet was very neat in markings and head. In Silver-pencils we found no improvement, and are sorry to find the breed so little cultivated. The first pullet was pretty, and so was the second cockerel, while third went to a very good pen, which we thought hardly used. In Spangles the first cockerel was good in colour, but not at all neat in head, with a rich-coloured pullet. Second also very brilliant and well marked. Third, again, very handsome and in beautiful bloom; and we thought all the pens well placed. In Silver-spangles the cup pullet was a gem, and her mate worthy of her. Second fair in colour, and the cockerel good in tail. Third had good lustre, and the cock's carriage good. In Blacks the cup pen was gorgeous in colour; second also very smart, and good in shape. Mr. Sergeantson's pen was very good in colour and condition.

**French.**—Houdans mustered well, and the birds were mostly well grown and healthy. We liked Mr. Boissier's pen much the best. The cockerel had a splendid leaf comb. He is the Bath cup bird, but has now a bad claw; this, we conclude, threw the pair out, for the pullet was a beauty which accompanied him. The cup cock lacked crest, and was not quite our favourite colour. The fourth cockerel came next to Mr. Boissier's for head properties, but was rather small, while the third too seemed small by some of the others. In the next class good La Flèche came in between two pens of first-rate Crèves; the first pullet was very large and in good feather. We noticed a very ancient pair of La Flèche in a highly commended pen, and a pair of Crèves claimed for £10 10s.

**Polands.**—Of these there were two superb classes. We never saw such a class of Blacks before in a chicken show. The cup cockerel was lovely, and his mate simply gigantic in crest; but neither were very white, and were they only of pure colour we can well imagine their being the finest pair of the variety in existence. Many thought the pullet was a hen, but we do not think so, and we closely inspected her. Second went to the first Ipswich pen, now in new hands, they are good in crest and very white; while third went to a neat pair of younger chickens. Mr. Darby showed a good pullet; Lady Dartmouth sent a grand cockerel, which we personally preferred to the third-prize pen; and Mr. Norwood sent a lovely pair, but we are most sorry to say the cockerel hit his head against the basket and nearly died from the effects; but the kind wife of the Secretary took it home and gave it hourly attendance throughout the night, and to this lady's exertions alone can the life of the bird be attributed. In the next class Mr. Adkins cleared the board. We, however, liked his second pen best, which have gone to a northern home for £20; and after them we liked Lady Dartmouth's or Mr. Unsworth's Golds; it was a grand class.

**Leghorns.**—Browns came well to the front, while Whites were in numbers far behind. The cup Browns were, as a pair of birds in one pen, the best pair we ever saw together. They were fair in ears and very good in all other points. Second and third pens also good. In Whites another cup went to Aylesbury for a neat and cleanly-shown pair of birds.

**Malays.**—The cup pen were large and fine in shape, and these points must have pulled them through, for other birds possessed much more quality in colour and feathering. The cockerels of Miss Brooke and Mr. Hinton seemed to be younger, and we think they will make splendid birds. It was one of the best classes we ever saw, and we were glad to see the faces of many Malay fanciers. Someone from Rugeley found a cheap bargain in Mr. Hinton's 40s. pen.

**Silbies.**—These made a very pretty lot, and they found hosts of lady admirers among the spectators. The cup pair were snowy white and good in combs. The pullet was the cup Ipswich bird, with a good cockerel. The second were good, but too heavily feathered and rather ugly about the hocks. The third pullet was huge in crest, but her mate was full of pin feathers, and we preferred, as they then were, Mr. Cresswell's pair. We heard a long price refused for the cup pen.

The Variety class comprised an immense medley of nineteen pens. The numbers might all have been put in a bag and the winners so drawn out. Black Minorcas won first, Andalusians second, and Sultans third, all good specimens; and many more as good had to put up with commendations.

**Bantams.**—The Game were wonderfully good. We liked the first Brown Reds and the cup Piles very much. We heard

many say the third Black Reds were the best pair of Bantams in the Show, but the light was poor, and the Judge had much difficulty in making his awards. Blacks were beautiful, pen after pen of great excellence; the cup pair fine in head and shape, and also were the second and third. Sebrights were poor. Shade of Sir John, come and stir fanciers up! The first went to Silvers, second to Golds, both of course Mr. Leno's. In the Variety class a pair of Pekins were first, the cock in good feather, but the hen the reverse; second neat White Rose-combs; and third very good Black-boots. They were a shade too large, but very lustrous and bright.

**Waterfowl.**—All these classes were good. Aylesburys and Rouens were of rare excellence. We heard that £20 had been refused by the owner for the second Rouen drake. He is a grand bird, and was, we believe, the cup bird at Malmesbury. In Blacks we liked the awards. It is amusing to see how the different birds get different places. Some liked Mr. Burn's the best, but we thought as a pair the cup pen were the right birds. Second were very good, and so were three or four more pens; but the quality was so good throughout that it made the judging a difficult work. The next class was simply exquisite, pen after pen of wonderful excellence, and nearly all conceivable varieties being present. Mandarins were first, and we much regret to say one died during the Show; Carolinas took second, shown in faultless feather; and third went to Bahamas. These have different coloured heads in the different sexes, which reminds us of the Ruff and the Reeve which we saw at Portsmouth. An extra prize or two might well have been given here.

A pretty collection of Pheasants finished this department, where Golds were first, Whites in bad feather second, and Swinhoe third. We were pleased to see the Show so well attended, and we hope the balance will be a good one on the right side. We see the dates for 1877 are published in the catalogue, so if others clash with this important Exhibition it will be their own fault.—W.

#### PIGEONS.

With possibly one exception there has never, we believe, been gathered together a finer collection of Pigeons than were in the Oxford Town Hall. The greatest care and attention were bestowed on them, and the building is so well suited to the purpose that no wonder exhibitors trusted the choicest of their studs. It was a charming sight on passing down far-stretching classes to see scarcely a single bad bird. But we must proceed to particulars.

**Carriers, Blue or Silver Cocks** (twelve entries).—First was a grand Blue all round, beak-wattle capital, and eye-wattle high and good. Second another Blue, fine in form but with wattle not fully developed. Third a Blue with a good box beak. Hens (ten entries).—The winners all Blue and good. Mr. Bentley showed a bird which in most respects was the flower of the class, but she was not in trim, and carried one wing loosely. Any other colour cocks (seventeen entries).—First, Mr. Baker's now famous winner. He certainly is a grand bird, but as Mr. Fulton says in his book, a perfect Carrier has scarcely been seen, and so this bird has his drawbacks—he looks a little short and has an overlapping beak. Second Mr. Baker's old Black; he was unfortunately too lame to stand up and do himself justice. Third another Black with good wattle, but showing too much space between the beak and eye-wattle. Hens (sixteen entries).—The winners were all Duns. We did not think much of the class as a whole. Blue or Silver, hatched in 1876 (nine entries).—The winners were all Blue. We feared there were several old birds in this class. Any other colour (thirty-two entries).—To this class the Judges appended a general commendation, "An extraordinary good class." The winners were all Black and seemed well placed. First was in all ways a wonderful young bird.

**Pouters, White Cocks** (seventeen entries).—The first combined immense length with slimness. Second had a fine crop, but looked to us a little thick in body. Hens (ten entries).—We liked all the winners. Mrs. Ladd's third-prize one perhaps best of the three. We also thought her unnoticed hen a beautiful bird for its great elegance of form. Any other colour Cocks (seventeen entries).—The first-prize bird in this class took the cup for the best Pouter. He is a Blue and very young. Great exception was taken to the award, but we must say we did not think it a bad one; he is a most symmetrical bird, very small in girth, and of exquisite colour. Second and third were Blacks. We should have reversed their order, for Mr. Pratt's is a grand bird. Hens (fifteen entries).—First a good Blue; second a Yellow very long in limb; third a Red. We much admired Mr. Baker's Black.

**Barbs** (fourteen entries).—We were glad to see Mr. Hedley again showing in this class, and, as of old, carrying first honours with a grand Black. Second a magnificent Yellow and small too, a hen we believe. Third a Red with somewhat unhealthy eye-wattle. Barbs of 1876 (nine entries).—Mr. Hedley first again with a very promising Red. Second a good Black, though far behind the first. Third another good Black.

**Tumblers, Almond.**—First and second capital birds, the former

the richest in colour. Hatched in 1876 (eleven entries).—It is very interesting to see this class before they have "broken." All three prizes went to one exhibitor; his three birds were, we thought, very even in merit. Short-faced, any other Variety.—First a Black Kite, second a Red, third an Agate. Balds or Beards, not Short-faced (thirteen entries).—First a capital Red Beard much smaller in head than one often sees Long-faced Tumblers; second a Black Bald; third a Silver Bald. Any other Variety (fifteen entries).—First a Yellow Mottle; second a Silver-muffed; third a Black Mottle.

**Dragoons** were the great feature of the Show, though we do object to such undue prominence being given to the breed, which had eighteen classes, while the beautiful old-fashioned Jacobin had but one! *Sic transit gloria mundi!* Many of the less popular colours in Dragoons had miserably-filled classes. Blue Cocks (thirty-six entries).—The first cup went to No. 1 in this class, a very big bird with a good V-shaped head. Second and third both capital birds, even in colour. We prefer not to see wattle under the beak which the second had. 1310 (Shutler) was a good true Dragoon, defective alone in bar. 1305 (Leach) very highly commended, good, but inferior in colour to the last-mentioned bird. Silver Cocks, Black-bars (six entries).—Why not distinguish between this and the next class by calling them respectively "Blue Silvers" and "Brown Silvers?" The nomenclature would be much more correct. First a splendid bird, though his bars were not what we call black. Second also good with less wattle. Third heavy in wattle and Carrier-like. Silver Cocks, Brown-bars (nine entries).—Mr. Bishop's birds were here far ahead. First a very good bird; second heavier in wattle. Red or Yellow Cocks (eleven entries).—First a Yellow splendid in colour, "London Fancy;" second a very dark Red; third a Red, its style we much liked. White Cocks (seventeen entries).—First a beautiful bird, good in shape, of medium size, broad in skull, and with eye-wattles singularly perfect all round. Second not quite so good. Third like the first but coarser in head. Any other colour Cocks (ten entries).—First a fine Grizzle, London type; second and third Blue Chequers. Blue Hens (twenty entries).—First a magnificent bird all round, shown by a local exhibitor. Second the type of Dragoon we like. Third rather long in beak; she was so fine in head as to make up for her light rump. Silver Hens, Black-bars (twelve entries).—First and second in splendid condition. Silvers, Brown-bars (eight entries).—First rather heavy in wattle; second a good Dragoon; third good in head. Red or Yellow Hens (nine entries).—First a somewhat large Yellow, excellent in colour. Second another Yellow not quite so bright. Third a capital Red. White Hens (sixteen entries).—All three winners capital birds with little to choose between them. Any other colour Hens (five entries).—First-and-cup a fine Blue Chequer. Second and third Grizzles. Blue of 1876 (thirty-seven entries).—A wonderful class. The cup bird was at once bright and deep in colour. The young birds had six classes, the colours being classified as in the adult classes. Time failed us to look at every bird. We observed that the second-prize Yellow (Hon. W. Sugden) was claimed for fine guineas.

**Antwerps, Short-faced** (twenty-three entries).—First a good Red Chequer. Second a Silver Dun very rich in neck colour. Third a Red Chequer. 1522 (Bradley), highly commended, was, we heard, the Alexandra Palace winner of last year, now not in good condition. Long-faced and Homing Antwerps also had classes, and numbered close on one hundred entries.

**Runts** (fourteen entries).—A fine class. First a huge and well-known Blue. Second and third Silvers.

**Owls, English** (twenty-three entries).—Apparently the foreign and English varieties of Owls are getting much intermixed, for the English are becoming smaller, the foreign are larger. The winners in this class were all Blues, very even in quality. Foreign Owls (eleven entries).—First-and-cup a White, not very small. Second another White, smaller. Third a pretty little Blue.

**Nuns** (eighteen entries).—All the winners Black. The class was singularly good, if there had been no trimming.

**Turbits, Blue or Silver** (fifteen entries).—First a Silver generally good, but defective in gullet. Second a little Blue, rather dull in colour. Third brighter in colour. Any other Colour (twenty-five entries).—First a remarkable bird, its great merit head properties, its defect want of colour. Second a Black, capital in colour. Third an indifferent Yellow. Some well-known birds in this class were not noticed.

**Fantails** (twenty-two entries).—A fine class. Everyone seemed astonished at the first award. There were at least six better birds. Second and third very good. Several capital birds were highly commended.

**Jacobins** (seventeen entries).—A poor class as a whole. This comes of all colours being crowded into one class. First and second were good Reds, third a pretty white.

**Maggies** had two classes, numbering fifty between them. First and second (Blacks) were admirable birds. The cup went to a superb little Yellow.

**Variety** class (thirty-three entries) must have given the Judges

much trouble, and apparently puzzled them in the end, for the first award was most unsatisfactory; it went to a "Black Archangel," so called, in reality we believe a cross between an Archangel and some other breed. A pair of these birds were shown at Reading last year and won. A large exhibitor claimed them, but finding out his mistake was, we heard, glad to be quit of his bargain. Second a fine Black Trumpeter, new type; third a Spangled Ice. Some lovely Archangels and one or two fair Austrian Pouters were in this class.

There were two Selling classes for single birds, value respectively under 60s. and under 30s.

The Judge's for Pigeons were Messrs. Esquilant and Jones, who were busied at their labours nearly twelve hours. The wonder is that the Show was so carefully and, on the whole, so satisfactorily judged.

**POULTRY.—DORKINGS.—Coloured**—1, H. Lingwood. 2, R. W. Beecher. 3, W. R. Rutledge. 4, O. E. Cresswell. 1 Local, J. Gee. 2 Local, J. C. Fraser. **Silver-Grays**—1 and 2, C. E. Burnell. 3, Hon. Mrs. Howard. 4 and 1 Local, E. Woodford. 2 Local, J. Calcutt. **White**—1, A. A. Boissier. 2, Mrs. M. A. Hayne. 3, O. E. Cresswell. **Any other variety**—1, T. C. Burnell. 2, J. Isard. 3, J. H. Putney. 1 Local, J. Gee. 2 Local, R. Gunstone. **SPANISH**—1, J. Walker. 2, J. Aldridge. 3, J. Thresh. 1 and 2 Local, H. Johns. **COCHINS—Cinnamon and Buff**—1 and 2, W. A. Burnell. 3, Mrs. H. Shutt. 2 Local, J. Gee. **vhc. Mrs. Hacliffe, Capt. L. S. Robin, Mrs. A. Tindal, R. Tomlinson, Partridge**—1 and 1 up E. Tudman. 2, Mrs. A. Tindal. 3, R. F. Percival. **Black**—1 and 2, H. J. Storer. 1 Local, W. A. Burnell. 3, A. Darby. 1 Local, A. Kitchen. **Any other variety**—1 and 2, C. J. Nicholls. 2, Rev. H. J. Borrow. 3, Mrs. A. Tindal. 2 Local, J. Craddock. **vhc. Rev. R. S. S. Woodgate, BRAHMAS—Dark**—1 and 2, R. P. Percival. 2, Rev. T. C. Peake. 3, F. Bennett. 4, Rev. H. F. Hamilton. 1 Local, E. Ayre. **Light**—1, Rev. H. J. Borrow. 2, G. W. Peter. 3, P. Haines. 4, J. T. Hinks. 2 Local, T. Smith. **GAMES—Black-breasted Red**—1, C. E. Burnell. 2, J. A. Beck. 3 and 3, S. Matthew. 1 Local, E. Woodford. 2 Local, F. P. Moore. **Pullet**—1, Cup. 2, P. Lyon. 3, W. J. Pope. 1 and 2 Local, R. J. Pratt. **vhc. Hon. and Rev. F. Dutton, S. Field, W. F. Brown-breasted and other Reds—Cockerel**—1 and 2, C. S. Matthew. 2, C. H. Wolff. 3, F. Ward. 1 Local, W. R. Pratt. 2 Local, J. Hill. **Pullet**—1 and 2, J. Mason. 2, H. E. Martin. 3, Robinson and Braithwaite. 1 Local, J. Loader. 2 Local, I. Hawtin. **Any other variety—Cockerel**—1, Cup. S. Matthew. 2, J. A. Nathan. 3, H. E. Martin. **Pullet**—1, Cup. S. Matthew. 2, T. P. Lyon. 3, D. W. J. Thomas. 1 Local, Miss A. Bunney. 2, C. E. Brown. 3, E. Brown. **White**—1, W. Watson. 3, Hon. and Rev. F. Dutton. 2, T. P. Lyon. 3, D. W. J. Thomas. **HAMBURGERS—Gold-pencilled**—1, Cup. H. H. Thompson. 2, W. Ticker. 3, Duke of Sutherland. 1 Local, J. T. K. Castell. 2 Local, J. Calcutt. **Silver-pencilled**—1, up, Duke of Sutherland. 2, J. Rawnsley. 3, H. Beldon. **Gold-spangled**—1, Cup. G. J. Duckworth. 2, T. Blakeman. 3, H. Beldon. 1 Local, J. Calcutt. **Silver-spangled**—1, Ashton and Booth. 2, H. Beldon. 3, G. C. Holt. 1 Local, J. Gee. 2 Local, J. Stoddart. **Black**—1, J. Pickup. 2, Stott and Booth. 3, H. Hoyle. 1 Local, Miss A. Bunney. 2, Local, E. Woodford. 3, F. Hinde. **POLISH—Black with White Crests**—1, Lecher. 2, E. Burr. 3, Fearnley. **vhc. Countess of Dartmouth. Any other variety**—1, 2 and 3, G. A. Akins. **HOUDANS**—1, Mrs. Vallance. 2, A. Uden. 3, S. W. Thomas. 4, G. D. Harrison. 1 Local and **vhc. R. Harvey. 2 Local, Rev. G. Day. vhc. W. Howard, Jun. FEENCH—Any other variety**—1, W. F. Upsher. 2, H. Stephens. 3, E. Burrell. **vhc. W. F. Upsher, N. Blanchard, MALAYS**—1, Cup and 2, L. Lecher. **vhc. W. F. Upsher, J. E. Walton, LEOPARDS—Brown**—1, Cup and 1 and 2 Local, A. Kitchen. 3, E. Chilton. **vhc. J. Ward, S. R. R. Fowler. 2, A. Ward, vhc. R. Fowler, A. Ward, SERIKES—White**—1, Cup and 2, Rev. R. S. S. Woodgate. 2, Mrs. J. T. Holmes. 1 Local, S. Shuffrey, Jun. **ANY OTHER VARIETY**—1, J. B. Williams. 2, J. H. Fry. 3, E. Barnett. 1 Local, E. Ayre. 2 Local, J. Rogers. **vhc. W. H. Coppleson. BANTAMS—Game, Black Red**—1 and 2, G. Hall. 3, J. Nelson. 1 Local, J. C. Fraser. 2 Local, Master H. Cavell. **vhc. W. F. Addie. Game, Brown and other Reds**—1, F. E. Davis. 2, E. Walton. 3, E. G. Farrington. **Game, any other variety**—1 and 2, R. Brownlie. 3, G. Hall. 1 Local, J. Kirk. **vhc. J. Nelson. F. Steel. Black**—1, R. Ashton. 2, F. Beaudant. 3, J. W. Earnshaw. 2 Local, E. Ayre. **vhc. W. H. Shackleton. Sebright**—1 and 2, M. Leno. 1 Local, J. C. Fraser. **Any other variety**—1, H. B. Smith. 2, E. Walton. 3, Mrs. J. T. Holmes. **vhc. Mrs. M. C. Davies. DUCKS—Aylesbury**—1, J. Walker. 2, J. K. Fowler. 3, Sear. 1 and 2 Local, J. C. Fraser. **vhc. J. Hedges, J. P. Pearson. Mrs. H. J. Bayley. Rouen**—1, J. Walker. 2 and 1 Local, J. Gee. 3, P. Ogilvie. 2 Local, Rev. E. Witham. **vhc. W. G. Chubb, J. Berry, E. W. Peck. Brookwell, J. Nelson. Black East Indian**—1 and 2, G. Sainsbury. 3, S. Hurn. 2 Local, T. Taylor. **vhc. J. Walker. White Call**—1 and 2, Mrs. H. J. Bailey. **Any other variety**—1, Mrs. Arkwright. 2, M. Leno. 3, Rev. W. Serjeantson. 1 Local, W. R. Pratt. **vhc. H. B. Smith, M. Leno, A. W. H. Silver, J. Trickett, H. Yardley, J. Booth, W. R. Rootes, J. Walker. PHEASANTS**—1 and 3, W. C. Drummond. 2, M. Leno. **vhc. W. B. Gibbins. TURKEYS**—1, W. B. Gibbins. 2, E. Lyall. **vhc. Local and vhc. H. T. Totham. 2 Local, A. Williams. vhc. H. J. Gurnell, F. L. Hall. vhc. J. Nelson. 1, J. K. Fowler. 2, J. Walker. 3, F. G. S. Rawson. 2 Local, J. Hutt. **vhc. E. Pouting, E. Snell, Marchioness of Hastings, J. Walker. SELLING CLASSES—Brahmas, Dorkings, Cochins—Cock**—1, W. A. Euraell. 2, E. Woodford. 3, H. Yardley. 4, H. Tomlinson. **Hens**—1, A. Darby. 2, S. Sambrooke. 3, Rev. T. C. Peake. 4, W. A. Burnell. **vhc. C. Sidgwick, H. Yardley, H. Tomlinson, S. Salter. Any other variety—Cocks**—1, L. Garnett. 2, W. Nottage. 3, M. H. Sturt. **Hens**—1, J. Walker. 2, L. Garnett. 3, A. W. H. Silver. **Bantams—Any variety**—1, M. Leno. 2, C. Reed. 3, G. Hall. **vhc. C. Naylor, R. A. Boissier. Ducks**—1, J. Hedges. 2, R. Gill. 3, T. Kingley. **PIGEONS—CARIERS—Blue or Silver—Cock**—1, W. Massey. 2, H. Yardley. 3, W. Hooker. **Hens**—1, W. Hooker. 2, E. C. T. H. Stretch. 3, W. Massey. **Young**—1, W. Jacob. 2, R. Cant. 3, E. C. T. H. Stretch. **Any other colour—Cock**—1 and 2, J. Baker. 3, J. Harwood. Local Prize, W. P. Keall. **Hens**—1, E. Burton. 2, Ridley and Dye. 3, Bentley. **Young**—1 and 3, R. A. Pratt. 2, J. Chandler. **vhc. E. Burton, J. T. Holmer, E. Barker, E. Barker, vhc. J. Peck. White—Cocks**—1 and 2, L. W. Watkin. 2, J. Stiles, Jun. **Hens**—1, L. and W. Watkin. 2, Ridley and Dye. 3, Mrs. Ladd. **Any other colour—Cocks**—1, J. T. Holmes. 2, J. Baker. 3, H. Pratt. **Hens**—1, J. Baker. 2, H. Pratt. 3, L. and W. Watkin. Local Prize, W. P. Keall. **BARBS**—1, M. Headley. 2, L. and R. W. Boyce. **Young**—1, H. Hedley. 2, R. W. Boyce. 3, J. Baker. Local Prize, J. Nunn. **TOMBLERS—Almond**—1 and 2, J. Baker. 3, H. Yardley. Local Prize, W. R. Pratt. **Young**—1, 2, 3, H. Hedley. **vhc. J. Nunn. Any other variety**—1 and 2, J. Baker. 3, E. Yardley. **Balds or Beards, not Short-faced**—1, H. O. Crane. 2, R. Woods. 3, F. Siedle. **Any other variety**—1, J. G. Friih. 2, J. W. Edge. 3, J. Barnes. **DRAGONS—Blue—Cocks**—1, W. Osmond. 2 and 3, W. B. Tegetmeier. **vhc. H. Yardley, R. Leach, R. Shuller. Silver, Black Bars—Cocks**—1 and 3, R. Woods. 2, W. Osmond. **Silver, Brown Bars—Cocks**—1, 2, and 3, W. Bishop. **Red or Yellow—Cocks**—1, R. Woods. 2, K. Woods. 3, H. W. Sugden. **White—Cocks**—1 and 3, R. Woods. 2, W. Bishop. **Any other colour—Cocks**—1, 2 and 3, R. Woods. **Blue—Hens**—1 and 2, Local Prize, H. O. Crane. 2, W. G. Flanagan. 3, G. Prentice. **Silver, Black Bars—Hens**—1 and 2, W. Osmond. 3, R. Woods. **Silver, Black Bars—Hens**—1 and 2, W. Osmond. 3, R. Woods. **Silver, Brown Bars—Hens**—1, W. Bishop. 2, H. Yardley. 3, W. D. Richardson. **Red or Yellow—Hens**—1 and 3, R. Woods. 2, Hon. W. Sugden. **White—Hens**—1, W. Bishop. 2, R. Woods. 3, Hon. W. Sugden. **Any other colour—Hens**—1, Cup. and 2, R. Woods. 3, W. Keeler. **Blue—Young Cocks or Hens**—1 and 2, Cup. and 3, R. Woods. 3, W. Smith. **Silver, Black Bars—Young Cocks or Hens**—1 and 3, W. Smith. 2,**

T. C. Burnell. **Silver, Brown Bars—Young Cocks or Hens**—1 and 2 Local Prize, C. F. Herrieff. 2, W. Bishop. 3, H. Yardley. **Red or Yellow—Young Cocks or Hens**—1, R. Woods. 2, Hon. W. Sugden. 3, G. South. **White—Young Cocks or Hens**—1, C. F. Herrieff. 2, W. Bishop. 3, W. Osmond. **Any other colour—Young Cocks or Hens**—1, 2, and 3, R. Woods. **ANTWERPS—Short-faced**—1, F. Winsor. 2, J. Mantel. 3, J. Chandler. **vhc. H. R. Wright, C. F. Herrieff. Not Short-faced**—1, Local Prize, and 2, G. F. Herrieff. 3, J. Baker. **Homing—Cocks**—1, F. Winsor. Equal 2, G. Cotton & J. W. Barker, Master S. Salter. Equal 3, G. J. Cox & W. Norris, C. F. Herrieff. **Hens**—1 and Extra 2, G. Cotton & J. W. Barker. 2, W. B. Tegetmeier. 3, Master S. Salter. **RUNTS**—1 and 2, T. D. Green. 3, H. Stephens. **OWLS—English**—1 and 3, J. Baker. 2, H. Verdon. Local Prize, E. F. Bulley. **Foreign**—1, R. W. Boyce. 2, J. J. Sparrow. 3, J. Baker. **TRUMPETERS**—1, C. Burnell. 2, H. Mitchell. 3, J. P. Hordwood. **TURBITS—Blue or Silver**—1, R. Woods. 2, G. H. Gregory. 3, E. A. Thornton. **Any other colour**—1, T. C. Burnell. 2, S. Salter. 3, J. Cargill. **FANTAILS**—1, J. Bailly, Jun. 2 and 3, Rev. W. Serjeantson. **JACOBSINS**—1, 2, and 3, J. Baker. **vhc. Local Prize, W. P. Keall. MAGPIES—Black**—1, 2, and Local Prize, F. P. Bulley. 3, S. Salter. **Any other colour**—1 and 3, S. Salter. 2, G. H. Gregory. **ANY OTHER NEW OR DISTINCT VARIETY**—1, J. Ponssett (Archangel). 2, J. Baker (Trumpeter). 3, J. Bailly, Jun. (Ice). Local Class—**Homing Antwerps**—1, E. Newmann. and **vhc. T. Taylor. S. W. R. Pratt. SELLING CLASS—Price not to exceed £3.**—1, R. A. Pratt. 2, H. W. Hale. 3, L. and W. Watkin. **Price not to exceed £1 1s.**—1, R. Woods. 2, W. Massey. 3, W. W. Pyne.

**JUDGES**—Mr. F. C. Esquilant, Mr. E. Hewitt, Mr. P. H. Jones, and Mr. R. Teebay.

## SOUTHWELL POULTRY, &c., SHOW.

The twenty-first annual Show of the Agricultural Society was held at Southwell on the 24th inst. The poultry Show in connection seemed to be an important portion. A good tent was provided, and Turner's pens were used, and the whole Show was well conducted, the Secretaries never leaving their post for any purpose.

**Game** (which headed the list and which in times gone by had their especial home in this district), were very badly represented, the class for Reds presenting nothing that fairly deserve special notice. In the next class first were Piles; and except that the cock was very thick and short in head, they were good, the rest being Duckwings. **Cochins** (Buff) were very good, the whole of the prizes falling to one yard. First and second to old, and third to young birds. The next class was not so good, although the winners were fair specimens. First and third Partridge, and second Whites. In **Dorkings** first and second were Dark, and third Silver-Grays. **Crève-Cœurs** a moderate class, some of the hens very good in head. **Houdans** a very good class, and all noticed in the list. Strange to say **Hamburgs** had but one class, the first going to a very neat pen of Blacks; second to Gold-pencils, the pullet in which was particularly good in marking, but the cock a little faulty in comb; the third Silver-spangles. In the Variety class first were Spanish chickens, as also the third; Gold Polish being placed second, these not being in full feather; but the hen particularly good in ground colour and marking. **Game Bantams** were the two best classes of the Show, the Reds being particularly good. First Black Reds, second Brown Reds, not up in feather but very good in colour, face, and eye; and third Black Reds, the pullet a little rusty on wing but very stylish. In the next class most were Piles, but first and third were Duckwings; the first very stylish and gamey, but not equal to the third in colour, the latter, however, being so far apart in colour of leg destroyed the chance of first, although if put singly these would quite walk in in such competition. The next class contained nothing special, if we except the winners, which were first and third Booted, and second Black. Cross-bred fowls brought out birds quite to our idea—viz., short legs, long heels, and broad backs, and of great size, and from the Crève and Brahma cross. **Ducks** good in both classes. The Selling class was very good, first Crève-Cœur pullets fit for any competition; second Buff Cochins; third Spanish pullets; fourth Duckwing Game pullets.

**Pigeons** had but eight classes, and the prizes poor. In Carriers first a Dun cock; second a Dun hen; and third a Black cock. Pouters nothing of note except the first-prize Blue; Dragons, good, the prize falling all to one lot; and Fantails also a good lot, the first one of the best we have seen of late. In Turbits, first was a small neat Silver hen; and second a Yellow cock. English Owls very poor except the first, and Antwerps had except the first Red Chequer and second Long-faced Blue Chequer. The Variety class was a good one in all respects, and duplicate prizes were given in the standards to an Almond, Barb, and Agate, and in others to a Pigmy Pouter, Spangled Ice, Swallow, and Blondinette.

**POULTRY.—GAMES—Black or Brown Reds**—1, G. Doubleday. 2, W. Brinsley. 3, G. Barnesby. **Any other variety**—1, G. Barnesby. 2, Master E. Cope. 3, D. Hulme. **COCHINS—Cinnamon or Buff**—1, 2, and 3, W. A. Burnell. **vhc. R. P. Percival. Any other variety**—1, R. P. Percival. 2, R. A. Boissier. 3, W. A. Burnell. **vhc. Rev. R. Fielden. BRAHMAS—Dark or Light**—1, R. P. Percival. 2, R. E. Wood. 3, H. H. Robins. **DORKINGS**—1, B. Smith. 2, F. Holbrook. 3, W. Roe, Jun. **CHREV-CŒURS, OR ANY OTHER FRENCH VARIETY, EXCEPT HOUDANS**—1, Ward. 2, Miss A. Sharp. 3, A. W. Darley. **HOUDANS**—1, R. E. Wood. 2, E. Blair. 3, I. Ward. **vhc. Thomas, J. E. Pligum, W. O. Quibell. HAMBURGERS**—1, G. Bacon. 2, W. Speakman. 3, J. Ashworth. **ANY OTHER DISTINCT VARIETY**—1, R. Newbitt. 2, G. W. Boothby. 3, J. Aldridge. **BANTAMS—Game—Black or Brown Reds**—1, R. Swift. 2, Miss E. Crawford. 3, J. Oserott. **vhc. Miss F. K. Winwood, J. Smith. Game—Any other variety**—1, Miss E. Crawford. 2, R. Newbitt. 3, Shumach & Datt. **vhc. W. Knight, F. H. Hockaday. Any other variety**—1, R. H. Ashton. 2, H. Ludlow. 3, F. Holbrook. **Red or Yellow—Cross-Bred Fowls**—1, Rev. J. Barrow. 2, H. C. Stenton. 3, E. V. Snell. **vhc. Rev. J. Barrow. Ducks—Rouen**—1, W. H.

Robson. 2, W. Bygott. 3 and *vhc*, E. V. Snell. *Aylesbury*.—1 and 2, W. H. Robson. 2, E. V. Snell. *Any other variety*.—1 and 2, A. & W. H. Silvester. 3, R. H. Ashton. *Geese*.—1, W. H. Crewe. 2, E. V. Snell. 3, G. Daft. *SELLING CLASS*.—1, Rev. J. Barrow. 2, W. A. Bunnell. 3, J. Aldridge. 4, J. Booth. *vhc*, Rev. R. Fielden. R. Newbitt. Miss E. Challan. *COTTAGES' CLASS*.—1, J. Payne. 2, G. Henfrey. 3, R. Spick. 4, H. Coddington.

**PIGEONS**.—**CARRIERS**.—1, H. Yardley. 2, C. G. Cave. **POUTERS**.—1, E. A. Thornton. 2, C. Young. **DRAGONS**.—1, 2, and 3, R. Woods. *vhc*, H. Yardley. **FANTAILS**.—1 and *vhc*, J. F. Loversidge. 2, J. Walker. **TURBITS**.—1 and 2, R. Woods. *vhc*, J. Wharham. **OWLS**.—*English*.—1, H. Parker. 2, H. Yardley. *vhc*, Miss K. Swift. **ANTWERPS**.—1, H. Yardley. 2, F. R. Edwardson. **ANY OTHER VARIETY**.—1 and 2, H. Yardley. 3, M. Weston. 4 and extra 1, A. and W. H. Silvester. Extra 2, R. B. Wood. Extra 3, —Clark. *vhc*, M. Weston. J. F. Loversidge. W. F. Footitt, R. B. Wood, C. G. Cave.

**JUDGES**.—Mr. E. Hutton poultry and Pigeons, Mr. Hives also in Pigeons.

## AGRICULTURAL HALL POULTRY SHOW.

(Continued from page 374.)

It is, we fancy, twelve years since the metropolis has seen a poultry show. In the years 1852 and 1853 took place the great shows in Baker Street. The Cochin mania was then at its height, and the building was crowded with spectators almost to suffocation. We have a dim recollection of seeing two pens of Brahmas at the second of these shows, which were then looked upon as the last imported novelty. Again in 1864 there was a London poultry show, this time at the Agricultural Hall. Great advances had been made in poultry culture, but the visitors were few, the time of year (September) unfortunately selected, and the experiment not a success. After a fresh interval of twelve years has the Hall seen a feathered tribe, and with a very different result, for on the first day of the Exhibition, when we visited it, there seemed a goodly crowd, both of fanciers and non-fanciers, to admire the great strides which have been made in the perfection of exhibition poultry. The birds were well arranged round the gallery, carefully fed, for we saw none of those detestable collections of maize lying in the pens as one does at most shows, and, in spite of many disadvantages under which the Show had been originated, it was a large and magnificent collection. It must be remembered that the Show of poultry clashed with Oxford, one of the favourite poultry fêtes of the year, that it was tacked on as an afterthought to the Dairy Show, and that the schedule was changed at least once. However, a success it was, and we feel pretty safe in prophesying only the forerunner of far larger and more successful enterprises of the same kind in London. As at Bingley Hall, the birds were far too near the gas, and our own seem to have suffered much from the temperature. We hope another time to see the poultry on the ground floor. We would suggest, too, that a few attendants with some distinctive badge are desirable; we could find none, and twice had to stop people tormenting and attempting to injure birds. Defects there always are in first attempts, and on the whole we thought it a well-managed affair.

**Dorkings** had two classes, for Coloured, and Any other variety, which numbered twenty-seven, and nine pens. The first Dark pair were fine chickens, symmetrical in shape; the cockerel good in comb and feet, the pullet not so in the latter respect. Second were old birds, very large, but we did not like their colour, the cock's hackles being silver with an admixture of brown. The third were in many respects good, but not perfect in feet. We preferred some of the highly commended pens to the winners; pen 372 (Cresswell) contained a well-matched pen, with really white feet; 375 (Burnell) a magnificent very dark hen; 379 (Gee) a massive cock; 382 (Lingwood) a very deep and broad cockerel with crooked toes. In the other class all the prizes went to Silvers; first a well-shaped cockerel, with a hen capital in form and colour; second an adult pair, which promised to be immense when through the moult; third pretty but small chickens, the cockerel squirrel-tailed. We much preferred Miss Pasley's pen next to them. A good pair of Whites were unnoticed. **Hamburghs**.—In Silver-pencils the first cockerel was far a-head, a well-developed bird, with exquisitely laced tail; second a good pullet and younger cockerel; third a pretty little pair, young, and the cockerel with a good honest comb. The class as a whole was much better than we often see in the south. Silver-spangles were a large class; the first cockerel had rather a coarse and lumpy comb; second was a very pretty cockerel, with a large-mooned pullet; third cockerel had a black patch on the back. **Golden-pencils**.—The fashion seems to be in favour of black tails in this variety. The first pair were very good: the cockerel had lovely lobes and comb and rich colour, the pullet small fine pencilling. Second another very dark cock, but showing a little bronze on the tail; not quite so pretty in comb as the first. Third another dark black-tailed cockerel with good comb and lobes, the pullet coarser in pencilling than the other winners. **Golden-spangles**.—We have before remarked on a fact which was again patent in the Hall, that the hens of this variety are seldom in good condition. First a good pen, cockerel a model bird, his comb simply perfection; the cock in the second pen had a small comb, almost too small for a Spangle, good in colour, but without the carriage of the first; the cock in the third pen was well shaped,

but we did not admire his comb, and the hen was unevenly mooned. **Crêves** were only a moderate class in quality as in numbers; first were well-matched chickens with good crests, but not large, and the cockerel decidedly leggy; we thought the award a mistake. Second a fine hen, with a fair cock; his crest not yet moulted out. Third a rather high-tailed cock with small crest; another fine hen. **Houdans** were a large and excellent class, many birds which would ordinarily be certain of a prize being but highly commended or unnoticed. First a well-matched pair, good all round and in blooming condition; their colour rather dark. We have always thought that there is something distinctive in the head and expression of a true Houdan, and this the cock eminently possessed. Second cock not through the moult; very fine hen. Third grand dark birds, the hen splendid. 630 (Mr. Thomas) showed a very fine pair, thrown out apparently by the cock's bad feet. **Leghorns**.—White: first a well-matched pair, the cock pretty with a not abnormal comb. Second the whitest birds in the class, apparently young. We thought the cockerel in the third pen decidedly the finest in the class, but they were not well shown. **Browns**.—The awards were not up at 5 P.M. in this class, so we cannot comment on them. We thought a pair of Mr. Hitchin's birds the prettiest in the class. **Ducks**.—*Aylesbury*: first were entered as six months old. They are prodigies, and we were glad to see a first prize given to birds which looked healthy and not over-fatted; second were old birds; third young and good. **Rouens**.—First were a drake somewhat out of condition, and a handsome Duck; second not so good-looking a pair as might be expected, the Duck white in wing. Any other variety.—This was a large (twenty-four pens) and interesting class; first were Chilian Pintails, at least so we were told, but do not pretend to be learned in ornamental waterfowl; second lovely Black East Indians; third Pekins. They were grand-looking white birds with orange-coloured bills; these contrast beautifully with their plumage, and are (we are heterodox enough to think) much prettier than the flesh colour of *Aylesburys*. A curious pair of white-tufted Ducks were shown and highly commended. **Turkeys** looked fine and well-shown. **Geese** (twenty-two) were a wonderful class; first and third prizes went to Grey; second to White Embden.

We trust next year to see an Agricultural Hall poultry Show, with much-extended classification, and a more than proportionate increase of entries. The Judges were the Rev. T. L. Fellowes, Capt. Heaton, Messrs. E. Lowe, and M. Leno.

## THE OLDHAM SHOW OF PIGEONS, &c.

The second annual Exhibition of Canaries, Males, and British and foreign cage birds and Pigeons took place in the Temperance Hall, Horsedgate Street, Oldham, on October 25th, 27th, and 28th. The exhibits numbered 155 Pigeons and 314 cage birds. The former division comprised many fine specimens fit to grace the stages of any show. The classes for "Jacks," Owls, and Short-faced Tumblers, however, met with no response.

The cage birds, of which the Lancashire "Coppies" and "Plain Heads" formed a prominent feature, were a goodly lot, and far exceeded in number those at the previous show, and this was the more surprising considering that a show at Norwich was being held on the same dates. But the Hon. Secs., Messrs. Fleming and Bradbury, aided by a practical working Committee, entered into the spirit of their labours with a determination to succeed, and their creditable schedule brought forth an exhibition worthy of themselves and all others who participated in the affair. The pains and penalties paid last year in the Lizard classes had the creditable and beneficial effect of stamping out the artificial system of colouring so long carried on in the neighbourhood of Lancashire, and we heard it jocularly remarked that "one chemist had broke (?) since the new and more wholesome order of things had come about. This year the Lizards were a grand lot, and we never saw birds more beautifully spangled than some present, notably the first-prize birds in each class. Without entering into full critical details of the whole of the classes we will sum-up our report by saying that the competition here and there was so keen as to engage the attention of the Judge fully half a dozen hours ere his duties were finished. The awards are as follows:—

**PIGEONS**.—**POUTERS**.—Cock.—1 and *vhc*, H. Pratt. 2, D. M. Garside. Hen.—1, H. Pratt. 2, D. M. Garside. **CARRIERS**.—Cock.—1, J. Balmforth. 2, W. Deakin. Hen.—1, W. Lees. 2, J. Balmforth. **DRAGONS**.—Blue or Silver.—Cock or Hen.—1 and *vhc*, R. Woods. 2, R. White. *Any other colour*.—Cock or Hen.—1 and 2, R. Woods. *vhc*, W. Deakin. **FANTAILS**.—Cock or Hen.—1, J. H. Loversidge. 2, J. Waker. *vhc*, W. J. Warhurst. **BARBS**.—Cock or Hen.—1 and 2, W. Lees. **TURBITS**.—Cock or Hen.—1 and *vhc*, C. A. Crafer. 2, R. Woods. **OWLS**.—*English*.—Cock or Hen.—1, S. E. Kettlewell. 2, Ward & Rhodes. *vhc*, W. H. Cook. *Foreign*.—Cock or Hen.—1 and 2, A. Simpson. *vhc*, D. M. Garside. **TUMBLERS**.—Long-faced.—Cock or Hen.—1, J. Lawton. 2, W. A. Hyde. *Antwerps*.—Short-faced.—Silver Dun or Red-cheguer.—Cock or Hen.—1, J. Wright. 2, J. C. Waterhouse. *vhc*, W. Hilton (2). *Short-faced*, any other colour.—Cock or Hen.—1, W. Hilton. 2, R. White. *Long-faced*, Silver Dun or Red-cheguer.—Cock or Hen.—1, J. Wright. 2, G. Thickett. *vhc*, H. Keeling. J. C. Waterhouse. *Long-faced*, any other colour.—Cock or Hen.—1, R. White. 2, J. Wright. *vhc*, J. C. Waterhouse. **BIRD FOR HOMING PURPOSES**.—1, R. Wood. 2, L. KINGS. *ANY VARIETY NOT BEFORE MENTIONED*.—1 and 2, A. Simpson. **SELLING CLASS**.—1, R. Wood. 2, R. White. *vhc*, W. Deakin.

**CAGE BIRDS**.—LANCASHIRE COPPY.—Clear Yellow.—1 and 2, Smethurst and



Gledhill, 3, J. Barlow. *vhc.* Butterworth & Chadwick, J. Barlow, R. Fleming. *Clear Buff*.—1, Smethurst & Gledhill. 2, Chadwick & Butterworth. 3, J. Barlow. *vhc.* J. Lockwood, Smethurst & Gledhill, R. Fleming. *Buff or Yellow-marked*.—1, R. Fleming. 2, J. Barlow. 3, Chadwick & Butterworth. LANCA-SHIRE PLAIN-HEAD.—*Clear Yellow*.—1 and 2, Smethurst & Gledhill. 3, A. Hamer. *vhc.* J. Barlow, Smethurst & Gledhill. *Clear Buff*.—1 and 2, J. Barlow. 3, Smethurst & Gledhill. *vhc.* A. Hamer, Smethurst & Gledhill. *Buff or Yellow-marked*.—1, 2, and 3, Smethurst & Gledhill. LANCASHIRE.—*Golden-spangled*.—1, J. Barlow. 2, Chadwick & Butterworth. 3, J. Lockwood. Extra 3, R. Fleming. *vhc.* W. Scanlan, Smethurst & Gledhill, Cleminson & Ellerton. *Silver-spangled*.—1 and 3, J. Barlow. 2, R. Fleming. Extra 2, W. & C. Burniston. Extra 3, C. J. Salt. *vhc.* A. Hamer, Smethurst & Gledhill, G. Riding, Cleminson & Ellerton 2). *Broken-capped Golden-spangled*.—1, Smethurst & Gledhill. 2, C. J. Salt. 3, Cleminson & Ellerton. *Broken-capped Silver-spangled*.—1, R. Fleming. 2, C. J. Salt. 3, W. Scanlan. YORKSHIRE.—*Evenly or Unevenly-marked Buff*.—1 and 3, J. Thackeray. 3, Wilkinson & Holroyd. *vhc.* Wilkinson & Holroyd, C. J. Salt, L. Belk. *Ticked or Clear Yellow*.—1, J. Thackeray. 2, J. Hart. 3, Wilkinson & Holroyd. *vhc.* Chadwick & Butterworth, J. Hart, Wilkinson & Holroyd, R. Fleming. *Ticked or Clear Buff*.—1 and 3, J. Thackeray. 2, Wilkinson & Holroyd. *vhc.* J. Hart. BELGIAN.—*Clear or Ticked Yellow*.—1, J. Hart. 2 and 3, C. J. Salt. *vhc.* J. Lockwood, J. Vernon. C. J. Salt. *Clear or Ticked Buff*.—1, J. Vernon. 2 and 3, C. J. Salt. *vhc.* J. Hart, C. J. Salt. NORWICH.—*Clear Yellow*.—1, W. Smith. 2, J. Young. 3 and 4, J. Adams. Extra 3, C. J. Salt. *Clear Buff*.—1 and 2, C. J. Salt. 3, F. Willis. C. Burton. *Evenly or Unevenly-marked Yellow*.—1, T. Cleminson. 2, J. Adams. 3, C. J. Salt. *vhc.* J. Adams, F. Willis. *Evenly or Unevenly-marked Buff*.—1 and Extra 3, C. J. Salt. 2, J. Adams. 3, W. Rice & Co. *vhc.* J. Adams, F. Willis, J. W. Hampton, Cleminson & Ellerton, C. J. Salt. *Clear, Grey, or Ticked Buff*.—1, J. Vernon. 2 and 3, C. J. Salt. *vhc.* J. Hart, C. J. Salt. W. Rice & Co. *Clear, Grey, or Dark-crested Buff*.—1, W. J. Hampton. 2 and 3, W. B. Horell. Extra 2, T. Cleminson. Extra 3, G. Russell. *vhc.* G. Russell (2), W. B. Horell (2), F. Willis, C. J. Salt, J. Young. CINNAMON.—*Clear or Variegated Yellow*.—1, Cleminson & Ellerton. 2 and 3, W. Rice & Co. Extra 3, Wilkinson & Holroyd. *vhc.* J. Adams, W. Smith (2), C. J. Salt. *Clear or Variegated Buff*.—1 and 2, W. Rice & Co. 3, W. Smith. *vhc.* J. Adams. GOLDPENNY AND CANARY MULE.—*Evenly or Unevenly-marked*.—1, Stroude and Goode. 2, L. Belk. C. Burniston. *vhc.* J. Thackeray, Stroude and Goode. 3, Stevens (2), J. Young. *Dark*.—1 and 3, C. J. Salt. 2, W. Smith. LINNET AND CANARY MULE.—1 and 2, J. Spence. 3, J. Stevens. ANY OTHER VARIETY OF MOLES.—1, W. Lancaster. 2, Stroude & Goode. GOLDPINECH.—*House-moulded*.—1, W. & C. Burniston. 2, C. J. Salt. 3, R. Allsop. LINNET.—1 and 2, W. Carrick. 3, W. & C. Burniston. *vhc.* I. Dickinson, J. Hoggarth. SKYLARK.—*House-moulded*.—1 and 2, T. Whitehead. 3, J. Bradley. ANY OTHER VARIETY.—1, J. Lacey. 2, J. Burniston. 3, Fish. *vhc.* T. Ainge. SELLING CLASS.—1, C. J. Salt. 2, C. Burton. 3, W. Smith.

JUDGES.—Pigeons: Mr. H. Alsop, Birmingham. *Cage Birds*: Mr. Geo. J. Barnesby, Derby.

DINNER AT THE CRYSTAL PALACE.—We understand arrangements are now being made to hold a dinner in connection with the poultry Show at the Crystal Palace on Tuesday, November 14th. The Judges and several influential noblemen and gentlemen associated with poultry interests are expected to attend. Full particulars will be announced as soon as the arrangements are completed.

### DO BEES GATHER HONEY OR MAKE IT?

TRUE it is that Mr. Pettigrew has "repeatedly" made statements regarding "crude honey," all to the same effect; these, I say, are "not proven." But he has certainly not answered my questions. My first question was this, "Will Mr. Pettigrew favour us with the data upon which this (American) chemist founded his argument?" This is not answered.

My second question related to his oft-repeated statement that "sugar is elaborated and the honey sweetened in the stomach of the bee." I asked, "Where does the sugar come from?" This is not answered. We sweeten our tea by the addition of sugar from without; the sugar is not elaborated in the teacup. We know well that sugar (which is the quintessence of honey) is not manufactured or elaborated out of nothing. Neither, I maintain, can bees manufacture or elaborate it in their sacs. It must be there if not imported from without. Now, which is it? Is it there? No; then it must be imported from without, and if so whence is it imported if not from the flowers along with or forming an integral part of the crude honey thence extracted?

Finally, I asked Mr. Pettigrew whether he could account for the "fact" which I adduced on the testimony of a competent apiarian—namely, that no crude honey whatever was found in a rich hive plundered in August, whether among the brood or in the honey cells proper. This again is unanswered.—B. & W.

HONEY IN THE MIDDLE AGES.—In a charter of Glastonbury Abbey is recorded that "Rodolph de Sancta Barbara is tenant of one mill and 100 acres in the moor, for honey which he supplies to the monks' kitchen. For this and all other, six sesterces of honey to the monks' kitchen, and 8d. Many lands were held of Glastonbury Abbey by the payment of honey for rent. I may mention that among the names of tenants in A.D. 1169 at East and South Brent are found Haimarie, Pret, de Hamma, and Isgar. In the 'Post Office Directory' for 1876 I see in those places the existing names of Emery, Perrott, Ham, and Isgar & Esger. This is very curious." Another letter from Canon Jackson about a mill at South Brent contains the record of windmills and the grinding they had to do for the Abbot of Glastonbury. Archdeacon Denison, referring to these letters, says:—"Windmills are said to have been first introduced into England A.D. 1299. The mills in this last extract appear to have been windmills. Mine is a clear case of a watermill. There is, I

believe, no trace in Greek antiquity of either water or windmill, none in Latin antiquity of a windmill. Palladius and Vitruvius have something about watermills. There is nothing in the second extract from the Glastonbury book about honey rent. Money rent seems to have risen a good deal between 1189 and 1322."—(Times.)

### OUR LETTER BOX.

ROUP (Quandary).—We know of no "cure" for roup. All that can be done is to keep up the patient's strength. Give your diseased birds bread soaked in ale once daily, and separate them from the healthy birds, for the disease is contagious.

FOWL'S TOE BROKEN (W. H. W.).—Let the white of an egg be well beaten up with a fork and spread upon a strip of thick, soft, brown paper, as wide as can be conveniently wrapped around the broken toe. The fowl should be held by an assistant; the toe slightly stretched, so as to bring the ends of the bones in a straight line; the moistened paper should be wrapped smoothly round several times, and secured by two or three turns of thread; and lastly, to prevent the parts being moved before the paper has become dry and stiff, a thin splint of wood, such as is used for lighting pipes, may be bound with thread on each side.

BRAMA COCK (Anxious).—The symptoms are those of weakness, and not unusual, as the bird is moulting. Give him bread soaked in ale once or twice daily until the moulting is complete.

GOAT-KEEPING.—"S." asks for directions how to keep goats and the kind which is to be preferred. If some correspondent will inform us we shall be obliged.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet- er at 3 p. m. in feet.	Hygrom- eter.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1876.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Oct.										
We. 25	30.340	38.7	38.6	W.N.W.	49.2	51.9	31.7	66.8	28.7	—
Th. 26	30.311	47.2	46.7	N.	48.5	51.2	38.2	62.5	34.0	—
Fri. 27	30.263	47.7	44.8	S.E.	49.3	50.5	46.3	54.6	41.9	—
Sat. 28	30.272	47.6	45.4	N.	49.3	52.2	45.6	57.9	43.2	—
Sun. 29	30.258	50.1	47.1	N.	49.4	55.2	45.4	58.6	42.6	—
Mo. 30	30.169	45.9	44.7	N.W.	48.3	53.4	40.3	52.1	54.0	—
Tu. 31	30.205	48.8	45.0	N.W.	47.6	46.2	41.2	54.9	26.4	—
Means.	30.263	45.9	43.0		48.8	52.4	40.7	57.8	35.3	—

### REMARKS.

25th.—Foggy morning; dull and dark all day, rather less so in the afternoon.  
26th.—Foggy morning; a very dull day, though without rain.  
27th.—Fine morning, and rather so all day, but without sun.  
28th.—Another dull calm day—no sun, no wind, no rain, but plenty of cloud.  
29th.—Rather hazy early, but a fine sunny day.  
30th.—Morning fine, and beautifully fine day throughout.  
31st.—A splendid day, the sun very bright, but the air rather cool.  
Mean temperature about 5° lower than that of last week. The weather very cloudy and dull from 25th to 28th inclusive; since that time very fine.  
—G. J. SYMONS.

### COVENT GARDEN MARKET.—NOVEMBER 2.

VERY little alteration to quote since last report. Business keeps very quiet with a bare supply, the principal stock consisting of American Apples, heavy importations of which are now arriving. Kent Cobs appear to have reached their highest figure, as sales are not effected at last week's quotations.

#### FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	1 sieve	6	to 5	0	0	Nectarines.....	dozen	0	6	0	0
Apricots.....	dozen	0	0	0	0	Oranges.....	100	0	0	24	0
Chestnuts.....	bushel	0	0	0	0	Peaches.....	dozen	0	0	13	0
Currants.....	1 sieve	0	0	0	0	Pears, kitchen.....	dozen	1	0	3	0
Black.....	1 do.	0	0	0	0	Pears, dessert.....	dozen	2	0	6	0
Figs.....	dozen	0	0	0	0	Pine Apples.....	lb.	3	0	6	0
Filberts.....	lb.	0	6	1	0	Plums.....	1 sieve	0	0	0	0
Cobs.....	lb.	0	10	3	0	Quinces.....	bushel	0	0	0	0
Gooseberries.....	quart	0	0	0	0	Raspberries.....	lb.	0	0	0	0
Grapes, hothouse.....	lb.	0	6	0	0	Strawberries.....	lb.	0	0	0	0
Lemons.....	100 lb.	0	12	0	18	Walnuts.....	bushel	5	0	0	0
Melons.....	each	2	0	6	0	ditto.....	100	1	6	2	6

#### VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	4	0	6	0	Leeks.....	bunch	0	4	0	0
Asparagus.....	100	0	0	0	0	Mushrooms.....	pottle	0	6	1	0
French.....	bundle	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	0
Beans, Kidney.....	1 lb.	0	8	0	0	Onions.....	bushel	2	0	5	0
Beet, Red.....	dozen	1	8	0	0	pickling.....	quart	0	4	0	0
Broccoli.....	bundle	0	9	1	6	Parsley.....	doz. bunches	2	0	4	0
Brussels Sprouts.....	1 sieve	0	4	0	0	Parsnips.....	dozen	0	0	0	0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	0
Capsicums.....	1 lb	0	6	2	0	Kidney.....	do.	3	0	5	0
Cauliflower.....	dozen	3	0	6	0	Radishes.....	doz. bunches	1	0	1	0
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	9	0	0
Coleworts.....	doz. bunches	1	0	0	0	Salsify.....	bundle	0	9	1	0
Cucumbers.....	each	0	2	0	9	Scorzonera.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	2	6	3	0
Fennel.....	bunch	0	3	0	0	Shalots.....	lb.	0	3	0	5
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	1	6	2	0
Herbs.....	bunch	0	8	0	0	Tomatoes.....	1 sieve	4	0	5	0
Horseradish.....	bundle	4	0	0	0	Turnips.....	bunch	0	4	0	0
Lettuce.....	dozen	0	6	2	0	Vegetable Marrows.....	0	2	0	0	0

## WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 9—15, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
9	TH	PRINCE OF WALES BORN, 1841.	50.5	33.8	42.2	7 11	4 17	morn.	1 57	23	16 0	314
10	F		50.4	34.0	42.2	7 12	4 16	0 16	2 11	24	15 54	315
11	S		50.2	34.2	42.3	7 14	4 14	1 38	2 23	25	15 47	316
12	SUN	23 SUNDAY AFTER TRINITY.	50.2	33.8	42.0	7 16	4 13	2 58	2 34	26	15 39	317
13	M	South Bermondsey Chrysanthemum Show.	49.9	35.2	43.6	7 18	4 11	4 18	2 46	27	15 30	318
14	TU	Northampton Chrysanthemum Show.	48.5	33.8	41.2	7 19	4 10	5 38	3 0	28	15 21	319
15	W	Wimbledon Chrysanthemum Show.	49.0	34.8	41.9	7 21	4 8	6 58	3 17	29	15 10	320

From observations taken near London during forty-three years, the average day temperature of the week is 49.8°; and its night temperature 34.2°.

## VINE PESTS.



VERY little can be done towards thoroughly eradicating the various insects which affect the Vine until the leaves have fallen and the Vines are at rest. Of course the insects may be checked to a certain extent during the growing season, but winter is the time for their complete banishment. It is throughout the winter when every part of the Vine, wood and house, can be readily reached that the only opportunity occurs of making a thorough cleansing. As this period extends from November until March, a few remarks on the best means of destroying the most virulent of Vine pests may be of use to some readers.

**RED SPIDER.**—This is well known to be one of the very worst enemies the Vine-grower has to contend with. It is a very small insect, and it often becomes established before its presence is discovered. It never settles on the whole of the leaves at one time, but starts on one or two and spreads to the others. The only chance of keeping it down when the Vines are in leaf is to deal with it when it is on the first leaf or two. It may be detected by the leaves which it attacks assuming a slight brown tint; but those who know its habits best do not wait until it shows itself in that advanced form, but examine the back of the leaves from their earliest development, sponging them with soft soap and water immediately a spider is detected. It is rather a tedious operation sponging each leaf, but this when carefully done in time very often prevents further injury, and is very much better than any other subsequent attempt at a cure.

A dry atmosphere always fosters red spider, and when much fire heat is used to keep up the temperature the spider is always found first on the leaves nearest the pipes; these are the leaves which should be looked over and sponged. Daily syringing when the fruit is green does much to stay the progress of red spider, but this operation cannot be carried on with advantage when the fruit is ripening; and as it is generally in the midst of the hot summer weather when syringing must cease the spider then spreads with great rapidity. Mildew has been unusually prevalent this season, rendering, in many instances, a dry atmosphere necessary in order to check its spread—a condition precisely suitable for the increase of red spider, so that I am inclined to think the pest will be in great force this autumn. When moisture cannot be applied, such as when the fruit is ripening or hanging ripe, sulphur is frequently used with the intention of killing red spider. It is made into a paint-like mixture, and brushed on to the hot-water pipes or flues. The ventilators are closed in the evening, and the pipes are heated until the temperature of the house rises to 85° or 90°. The sulphur through being heated emits strong fumes, and these are said to kill the spider; but although I have carried out sulphuring thoroughly I must confess that I have never found it effectual.

As soon as the fruit is cut from infested Vines they

should have a complete and thorough syringing from the garden engine; this will dislodge a great many of the insects, which is very necessary, as they often interfere with the ripening of the wood. Than this drenching no other remedy need be applied until the Vines are pruned. In pruning, the whole of the shoots which are cut off should be taken outside and burned. All the loose bark should be peeled from the canes, but in doing this a very blunt knife should be used, and care must be taken not to cut into the wood. The spurs must be particularly well scraped without touching the buds for next year's wood, and the rods should be made quite smooth and clean from top to bottom. After this has been done all the glass and woodwork must be washed with soft soap and warm water, also the trellis to which the Vines have been attached; every inch of brick or stone work above and underneath the surface of the border for 3 inches should be limewashed. The rods must then be washed. For this purpose I cannot recommend anything better than a mixture of soft soap and water, which should be strong enough to colour the water so as the finger cannot be seen more than 1 inch below the surface. If this solution is properly used the Vines require no dressing with any mixture after they are washed.

I have known instances where the rods have been covered with a dirty mixture of soot, lime, &c., without previously washing or cleaning the canes. Instead of this "painting" killing the insects under the bark or destroying the larva it only keeps them comfortable, and they come out as fresh as ever when the Vines are started into growth. If a Vine is well cleaned of the loose bark and thoroughly washed it is quite impossible that any description of insect can escape, the whole of them will be washed down to the ground; and to complete the cleansing the surface soil of the border to the depth of 3 inches must be removed and replaced with a mixture of fresh soil and decayed manure. No matter to what extent a vinery may have been infested, if the above instructions are carried out not a spider need be seen next year.

**THRIPS.**—This insect, although not so destructive as the red spider, is nevertheless capable of doing much injury to Vines. In a young state it is white in colour, but as it becomes older it turns black. It is much easier seen than the spider. It has not much influence on the old leaves, indeed it seldom attacks them, but it is very partial to the young tender leaves and points of the shoots, and frequently stops the growth of these altogether. The leaves which it has been eating may be distinguished by small transparent spots which appear on them. Syringing is a good means of keeping the thrips from spreading, but this does not exterminate them. Fumigation with tobacco smoke accomplishes this more perfectly than anything I know. The vinery must be filled with smoke three nights in succession, and this generally has to be repeated two or three times during the season.

**MEALY BUG.**—Where plants are grown in vineries, which is very often the case, this insect is almost sure to find its way on to the Vines. It does less harm than

either of those previously mentioned, but it looks filthy, especially when it settles amongst the fruit, as it very often does when the bug is very plentiful. Nothing is more offensive than sending a bunch of Grapes to the table with a number of bugs crawling about it. Unlike many other insects it seems to exist as freely on the woodwork of the house, or in the crevices, as on the Vines. Little or nothing can be done towards destroying it while the Vines are in leaf, but the means taken to clear out the spider when the Vines are pruned will not fail also to extirpate mealy bug. Where it has been very abundant the inside woodwork of the house should be painted after it has been well washed. Oil, turpentine, and such like, which are sometimes recommended for this insect, I have a great aversion to and never use them, as I consider them not only unnecessary but often injurious.

**GREEN FLY.**—Although often collecting on the points of the young shoots does not appear to do them much harm, and this insect cannot survive the application which destroys the thrips.

**PHYLLOXERA VASTATRIX.**—Unfortunately this insidious pest must now be classed amongst the most destructive insects with which the Vine-grower has to contend. The only way of exterminating it is to make a thorough clearing-out of everything connected with the vineries. It was quickly and very cleverly eradicated from Drumlanrig in 1872, and I have not heard of any trace of it being found there since. Mr. Thomson in that useful book "Fruit-Culture under Glass," says, "The most certain way of stamping-out this destroyer is to burn the Vines, remove right away all the soil, well salt the site of the border, and wash and paint everything connected with the vinery before fresh soil is put into it."

**WIREWORMS.**—These are not often classed amongst Vine-destroyers. In some places they are said to injure the roots, while other good Grape-growers, such as Mr. Douglas, hold them to be harmless. However, if harm they do it is only to the young roots and newly-planted Vines when they are placed in fresh soil. As the fresh turves decay the wireworms appear to decay with them, especially when the grass roots perish. The soil which it is intended to use for potting young Vines is generally pulled into small bits with the hand, and while doing this all the wireworms which are seen should be picked out and destroyed. Those in borders require to be trapped; this is done in various ways. Perhaps the best is to put small slices of Carrot here and there underneath the soil, with a small peg in each, which must be left projecting above the soil to act as a handle for the purpose of lifting the bits of Carrot, which must be looked to frequently, and any of the worms found destroyed. The stems of Cabbage, Kale, or Brussels Sprouts, if cleaned and sharpened at one end and inserted into the soil, also act as traps for the wireworms, as they bore into the stems, from which they can be removed and killed. A little soot mixed in the soil makes it distasteful to them.

**MILDEW.**—This is not an insect, but it is equally destructive, and as the winter season is the time to deal with it, a few words on the subject may not be unacceptable. Sulphur is the great specific for this malady. It often appears in small wool-like spots shortly after the Vines are started into growth. It is more liable to spread in spring than summer, as a close moist atmosphere is favourable to its production, and in hot weather in summer the atmosphere of the vinery is not often either close or overmoist; but if mildew gains a wide footing in spring it sometimes continues to spread throughout the summer. From the leaves it passes to the fruit and then to the wood, where it shows itself in little dark-coloured spots, and if these marks are not removed when the Vines are pruned every leaf will become infested when the Vines are started into growth. When the canes are pruned and washed, as above recommended, a quantity of sulphur should be mixed into a paint-like consistency, and the whole of the rods should be painted over and allowed to remain in this state, when the parasite will be entirely killed before the Vines are started into growth. This plan is simple, and I do not think anything could be more effectual.—**VITIS.**

### WINTERING AURICULAS.

THE Auricula suffers more from damp during the winter than from frost; indeed, I think it is questionable if even very severe frost would materially injure the plants. But all cultivators are careful in excluding it as far as possible, because it unquestionably injures the bloom, cracking the paste, and

causing the flowers to come rough. Few of the old growers used to winter their plants in anything but wooden frames; but modern growers are more careful. Personally I have found frigi domo very valuable, and if "I. F. K." would procure sufficient of it, not only to cover the glass, but to go clear over wood and all, and have it double, I think he might defy frost. It is very cheap, warm, and durable. When once the plants begin to show the bloom, it is very desirable to keep them from frost, and one has often heard how some of the Lancashire weavers would strip the blankets off their own beds to cover their much-loved plants.—**D., Deal.**

### STANDARD ROSES.

THERE are those who appear to desire that standard Roses be driven from all gardens. I cannot join in such a wish, knowing as I do how greatly Roses of that character are prized in many gardens, and how much they contribute to the floral display of summer and autumn. I grant that there are some places quite unsuited for standard Roses, and some kinds of standards which are unsuited for any place; but, on the other hand, there are varieties which are valuable, and places for which they are particularly adapted.

The fashion for standard Roses, like that in the case of other fashions, has been carried to an extreme point. Standards must be had, therefore any Briar stalk will do, and the taller they are the better, appears to have been the principle of action. What wonder, then, that a reaction has set in, and that another extreme adopted—namely, extermination?

Standards are not suitable for exposed gardens, for districts where the winters are very severe, for dotting on lawns with the turf growing close to their stems, nor, it may be, in any place where blooms are grown wholly for exhibition. All that I readily grant, yet I know that standard Roses are useful, and I cannot join in the cry for their general uprooting.

Let us bear in mind that all who enjoy Roses are not exhibitors of them, yet many who do not exhibit are greatly and often profitably influenced by the teachings and advice of the exhibitors. From them valuable hints are derived on pruning, manuring, and other points of management, and more and better Roses have followed. But more and better Roses could not in all cases follow were the standards destroyed. There are gardens where, if standards were not grown, their owners would be almost destitute of Roses.

Standard Roses are most ornamental in mixed borders and amongst shrubs, where dwarfs would be quite inadmissible. It is conceivable that there are those who would consider it bad taste to plant Roses in such positions, and further, that Roses so grown cannot be worth looking at. Hundreds, however, there are who think differently, and so plant and enjoy Roses, and are ready to admit others, who in turn are ready to enjoy them too. Now these are not all destitute of taste, nor all bad judges. I will adduce one or two examples.

Turn to page 386 of last week's Journal and read "D., Deal's" notes on Mr. McIntosh's garden at Duneevan, and find these words:—"Does he [Mr. McIntosh] grow Roses? Well, in answer to this, just let me say that in one of his rooms is a table on which there are arranged 250 specimen glasses of various sizes, and these are kept filled all through the season with single blooms of Roses; and I rather fancy that anyone who can do this must be able to grow Roses." Many others, I assume, will fancy so too, and also fancy that "D., Deal," is not a bad judge of the blooms which he has deemed worthy of honourable mention.

Now, I happen to know Mr. McIntosh's garden. I have seen it when the rich collection of Rhododendrons have been in their glory, when the matchless Lilies have been in their zenith of beauty, and when the Roses have been blooming which produce the blooms keeping the "250 specimen glasses filled all through the season," and I think I am right in saying that but for standard Roses those glasses would be empty; and but for growing standards amongst the Rhododendrons that garden would be destitute of Roses. Who that has seen the Roses at Duneevan could despise them or the trees producing them—the oft-abused standards? Standard Roses, the heads just rising above the rich green foliage of Rhododendrons, have a beautiful effect, and are worthy of a better name than "mop-heads."

I will now refer to a garden a hundred miles north from Duneevan. A quarter of a century ago I planted amongst the shrubs in that garden a great number of standard Roses, and many of them are still growing luxuriantly and flowering pro-

fusely. In the 4-foot-wide flower borders (bounded by espalier trees) which fringe the walks of the kitchen garden are hundreds of standard Roses, which in their season of blooming are admired even by rosarians, and from these standards "bushels of blooms" have been cut and sent to cheer the inmates of hospitals and infirmaries. Dwarfs in such a situation would be but poor substitutes for the standards which have produced such a splendid effect and such gratifying results for many years. Dwarfs have been tried in some of the borders, and have been "found wanting."

A mistake commonly made with standard Roses, and which has more than anything else brought them into disrepute, is in having their stocks too tall. Briars have been planted of what was deemed the right height, in forgetfulness that 2 feet more would be added to them by the growth of the Roses.

Two feet or 2½ feet ought not usually to be exceeded as the height of the Briars before they are budded. They ought also to be selected with care, rejecting any with imperfect stems and insufficient roots.

Briars are condemned also for their natural propensity of producing suckers. True it is that Briars struggle hard for life, but with care in selection and planting, and generous treatment, keeping the Roses on them growing, a Briar will not give much trouble in growing from the roots. If its sap channels are impeded, then it will make others; but with a healthy stem and free growth at the top it will not greatly annoy by growing from the bottom. It grows from the roots, not in preference to growing at the top, but simply in preference to dying.

My practice in growing standard Roses is to select stout clean Briars with good roots and plant them in November, carefully examining the roots and rubbing off any buds which are seen previously to planting, and not allowing the roots to become dry by exposure. After the Roses are established they are pruned in the spring after growth has commenced. Superfluous shoots are thinned out, and superfluous flower buds from the shoots remaining. Insects are rigidly extirpated, and a few soakings of liquid manure are given to the roots. The Roses then grow with unchecked vigour, and suckers give little or no trouble because few are produced. When growths issue from the roots they are signs of bad management on the part of the cultivator or of disease of the Rose, which is making a last effort for existence by growing at the bottom because for some reason or other it cannot grow at the top.—A CIVILISED NATIVE.

### WINTER-DRESSING FRUIT TREES.

THE winter-dressing of fruit trees has been insisted on by most writers on practical gardening, no doubt acting on the principle that prevention is better than cure, the fact being that the remedy for a severely infested plant, whether with insect or fungus, is not unfrequently as bad as the disease itself. It has been held, and may still be held by some, that the winter-dressing of Vines, &c., is useless, as the insects are then dormant and proof against any insecticide. As to that I must confess to having but faint knowledge of insect life, and I do not think entomologists have placed before us the requisite information. Yet even a tyro in gardening knows that the brown or Peach aphid is as active upon the young shoots of the Peach and Nectarine during the winter as the summer months; that brown scale remains through the winter upon shoots which it has obtained a footing upon during the summer; that mussel scale holds tenaciously to the bark of Apple and Pear trees; that mealy bug and red spider, when the plants they infest become leafless, seek out the rough parts of the bark, beneath which they creep, shielded alike from cold and wet; that the whole tribe of aphides are more or less active during the winter months; and that thrips are not more given to pass the winter in obscurity than slugs. Now such insects abiding with the subjects upon which they feed are just as vulnerable to an insecticide in winter as at any other season, and often more so from their being more closely congregated; and further, the antidote being capable of application at a strength that would be fatal to the tender shoot and foliage, a winter-dressing is of much value.

I have tried most insecticides, and found all more or less useful. Nevertheless, from their costliness, and not always being at hand when wanted, I have thought some easily procured and readily prepared substances out of which an insecticide could at any time be formed would be desirable and acceptable. The following recipes will be found useful. Soft

soap half a pound, to which add a wineglassful of spirits of turpentine, and with a stick mixing thoroughly with the soft soap, having ready boiling tobacco juice, and adding this a little at a time, so as to incorporate the whole, the tobacco juice that is to be added being half a gallon. This small quantity will suffice to dress a dozen Vines or four average-sized Peach trees. Apply the mixture with a brush to every part of the trees after it becomes cooled to 120°, taking care to brush it in to the angles and crevices of the bark, and not to injure the eyes or dislocate the buds, which, however, should be coated with the stuff. The sooner it is applied after the leaves have fallen the better, as the pests remain as long as possible before retiring for the winter. The mixture will kill every species of scale (mealy bug not excepted), red spider, whether in the egg or otherwise; thrips, aphides, and fungus. It is only applicable to ligneous plants, and to those only when at rest. For destroying white or brown scale and mealy bug upon growing plants, 8 ozs. of soft soap mixed with a wineglassful of spirits of turpentine, adding gradually half a gallon of boiling water, stirring so as to thoroughly incorporate. Apply with a brush to the parts infected, or with sponge to leaves, at a temperature not exceeding 120°. The plants must be syringed with water immediately after they have been dressed with the solution, taking care not to allow the mixture to run down the stems in full strength to the roots.—G. ABBEX.

### HARDY SPRING ANNUALS.

As spring-flowering annuals are hardly ever done justice to except in very large establishments, I wish to draw the attention of amateurs and those who do not keep a regular gardener to the culture of a few of the best, which is very simple, and the cost of the seed is trifling. Amongst the most attractive are the *Silenes pendula rosea*, *pendula alba*, and *pendula ruberrima*. Each plant grows about 1 foot high and the same in diameter; they should be planted, therefore, about 1 foot apart either in lines, chains, or masses, and few plants will produce such a pleasing effect considering their cost. The seed should be sown about the third week in July, and the seedlings be transplanted once before the final planting in the flower garden where they are to bloom. One ounce of seed will produce about four thousand plants.

For a dark blue the pretty *Forget-me-not*, *Myosotis dissitiflora*, flowers early and produces a charming effect. The best way to raise a stock is to plant about one dozen plants in the spring, after they have done service in the flower garden, in a shady corner, and keep free from weeds, and in due time you will be rewarded with hundreds of healthy plants. For a yellow I have *Lasthenia californica*. It is a very showy annual, which does not attain more than a foot high, and is very free-flowering.—H. S.

### USEFUL APPLES.

OWING mainly to the articles of "A NORTHERN GARDENER" and "A MIDLAND FRUIT-GROWER" we have obtained a good notion as to what varieties of Apples, both dessert and cooking, we should plant if we want early Apples, and I know that early Apples are wanted both for parlour and kitchen. Awaiting, and glad of any further hints as to sorts—and very useful hints have been given in shorter articles than by the two writers above named—I would now say Let us proceed to the other end of the Apple season, and propose this question—"What varieties of Apples are best for the months of April, May, and June?"

As to the medium-season Apples there are plenty of those to choose from, and I think "A MIDLAND FRUIT-GROWER" did quite right to exclude the autumn Apples from his list of early sorts. By the way, I beg to thank that writer for his kind response to my request in his paper in the number of our Journal of the date of October 5th. Autumn Apples are not summer Apples any more than October is a summer month; and certainly Kerry Pippin is not a summer Apple.

My own opinion is that those who seek to place the Apple in a higher station as a fruit must try to combine beauty with utility. A handsome Apple is really a very ornamental object. Recently I was staying in Hampshire, and the staircase window commanded a view of the garden, and a very good and productive garden it is. Just within pleasant distance stood an Emperor Alexander Apple tree, turning a corner in espalier form. Its fruit was not yet gathered, and I never passed that window without pausing to admire the beautiful fruit, as at-



tractive to the eye as a Pæony in a shrubbery. Beauty and utility, say I. As to great size, most large Apples fail in flavour. The smell of the uncooked fruit is a good guide as to its taste when cooked. If I know the Greasy Coat, and I am not sure I do, but I was familiar with one answering to the written description, and its smell and taste when cooked were none too pleasant.

I see that several correspondents have not spoken favourably of the Devonshire Quarrenden, neither can I. Usually I have found it here dry and tasteless, with nothing but its red—over-red—cheek to commend it to the purchaser. But districts differ as to the quality of their fruit. Thus I was talking recently to the head gardener of a large establishment, and he stated that the soil was such that he could not properly ripen any Pears after Baurré Hardy and Baurré Diel, and that all the rest had to go for kitchen purposes.

After discussing the best early and late varieties of Apples, and these are the most valuable, it would be an almost equal benefit to open the subject of early and late Pears, fixing localities where certain varieties do best. A glaring instance is the Scotch Achan—north of the Tweed so good, in the south so bad—yet it is not quite alone, or there would not be such a difference in fruit character as noted in books, and catalogues, and articles, and the experience of fruit-growers. I examined a Ribston Pippin tree the other day, there was not a trace of canker on it; yet how many localities show nothing but cankered trees of that variety of Apple.—WILTSHIRE RECTOR.

### FORCING SPIRÆAS.

THERE is only one variety of *Spiræa* which is generally forced, and that is the old *Spiræa japonica*; but there are three others which I wish to bring under the notice of your readers as being equally worthy of the attention for greenhouse or conservatory decoration.

These are *S. palmata*, *S. Aruncus*, and *S. filipendula flore-pleno*. *S. palmata* forms an excellent contrast to the white-flowering kinds, as it produces very fine heads of purple-red flowers. The stems are crimson, and the leaves green, so that when well bloomed it forms one of the most handsome of plants. *Spiræa Aruncus* bears a mass of feathery panicles of pretty white flowers, which I consider more effective than those of *S. japonica*. *Spiræa filipendula flore-pleno* has extremely graceful leaves, being Fern-like, and although it is not quite so well adapted for forcing as the others named, it is worth growing in a pot for its ornamental habit. It also bears large heads of flowers of a creamy hue.

Those beginning to force *Spiræas* for the first time will require a quantity of roots, which may be bought cheaply from any nurseryman. The present is the best time to purchase them. They will be found to be compact roots, suitable for 5 or 6-inch pots. A light sandy loam may be used in potting, and it should be pressed very firmly about the roots to save watering, as great quantities of water will be required further on.

Newly-potted roots should be covered with a few inches of ashes for a fortnight or three weeks, and subsequently be introduced to any structure where the heat is about 60°. The leaves will soon appear provided the plants are supplied with plenty of water.

There is no genus of plants more easily forced, and they may be brought into bloom without much trouble, and when they are in flower they are valuable for bouquets or any other ornamental purpose.

By introducing into heat a dozen plants now and again, a succession of flowers may be had from December until May. If the weather is cold or frosty when they have done flowering they should have the protection of a frame until they can be placed out of doors for the summer. Here two courses of treatment may be followed. The one is to retain them in the pots and grow them in this way throughout the summer; the other is to turn them out of the pots and plant them in a border. I prefer keeping them constantly in pots, shifting them into larger pots when necessary, and plunging them to the rims in hot weather. They require a little more attention in watering when kept in pots, but they start more readily into growth when placed in their forcing quarters.

In planting them out they may be set a foot or more apart, and here also they must be liberally supplied with water in dry weather. They should be lifted out of the ground not later than the end of October, and potted in the same manner as the roots which were started with at first. When a few good

roots have been secured the stock may be increased by dividing them in spring and growing the divisions on as established plants.—R. J. N. M.

### LIATRIS PYCNOSTACHYA.

WE made a note of this beautiful hardy flower last month; since then the effect of the drought on summer-flowering plants has been counted up, and the result in favour of this is so striking that in the hope of a more general introduction we have had a sketch made of one as an illustration. Through the greater part of the month of August it was in full blossom, as if the heat, so destructive to many plants, was a matter of no consequence to it.

The plant is found wild abundantly throughout the States of Kansas and Texas and in the Indian territory, and though long known to botanists, and now and then sent east by correspondents during the past dozen years or more, no attempt to introduce it to general notice has been made that we are aware of. During the past summer we saw a whole row of it in the garden of a florist, and the effect of so large a quantity was beautiful in the extreme. The plants were raised from seeds brought originally from Southern Kansas in 1873. If sown in the autumn the plants bloom the next year, but the best success follows when sown in the spring, and the plants have a season's growth before flowering the next year. The roots are somewhat bulbous, and will continue to bloom well for several years. There are some twenty species in North America, but this is, perhaps, the handsomest of the whole. The flowers are rosy purple; spike about 1 foot long, as shown in the engraving. They commence flowering at the top of the spike, and the blooming progresses downwards. In the illustration the lower blossoms have yet to open.

Like so many beautiful plants from the West, this has not been known long enough to have an English name, and we suppose the Greek one will be considered "hard" by the dear ladies, and "pedantic" by the average man. The settlers call it "Fire-weed," and "Sky-rocket Plant," but as these names are already given to scores of plants, and will be to as many more, it is hardly worth holding on to them. The eastern *L. scariosa* is known as "Gay Feather;" suppose we all agree to call this the "Kansas Gay Feather." There are other species of *Liatris* in Kansas, but this is the best.—(*American Gardener's Monthly*.)

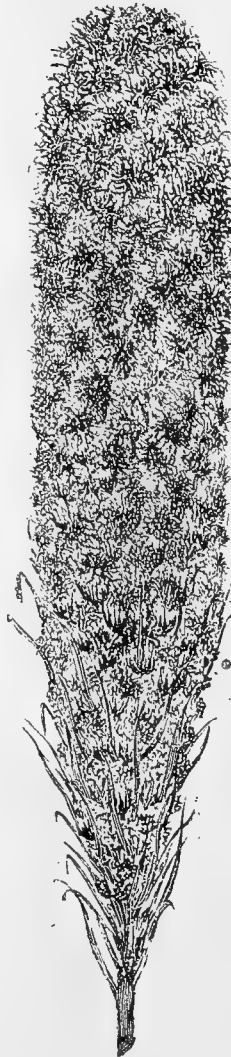


Fig. 60.—*Liatris pycnostachya*.

### WHITE ISCHIA FIG.

AT this late season, when all kinds of fruits are scarce, I may be excused for pointing out to those contemplating planting a very valuable Fig, and though a small one is nevertheless a very good and delicious fruit. I allude to White Ischia, which has several synonyms, the last being Singleton. We had occasion to turn one of our span-roofed Vine houses into a Fig house. The house is 60 feet long by 20 feet wide. The sorts I selected were Brown Turkey and White Ischia, two trees of each; one of each planted on either side. This is their

second season of growth, and I have given them next year to fill the house, including the 8 feet upright. This year the produce of all the trees have been great, and we are just now gathering every other day several dozens of fruit from the White Ischia, and the branches are still laden like ropes of Onions. Although this variety is considered a dwarf-growing tree in its planted state, here it has made a wider and stronger growth than its companion. It is a very small fruit grown in pots, but planted out it is nearly equal in size to White Marseilles. I find it of very great value just now, when Plums and Peaches are nil. It is well described in Hogg's "Fruit Manual," and its late usefulness added here may induce it to become useful also to a few others.—K.

### THE ROSE ELECTION.

AFTER all it is sufficient that our pets, the Roses themselves, have thorns with which they will sometimes inflict wounds on their admirers. It is not at all necessary that their admirers should have thorns for each other. In replying first in the heat of the moment, and with scant time for reflection to my friend—for I believe that "differences of opinion should not alter friendship," and therefore I still write my friend "WYLD SAVAGE"—I hope the side I showed was not too thorny. It was a terrible knock-down blow to have that heap of adjectives hurled at the election, for the publisher evidently was at a loss to select one more "jolly" than those "WYLD SAVAGE" had himself discovered; and to feel thus after having had Rose on the brain for weeks, after wading through names of illustrious and unknown personages who have given their names to the said Roses; after a nightmare in which each Rose has pressed its charms upon me for niches in the temple of Fame (*alias* Rose lists), and striven to assure me that each separate pleader should head the list, as if the whole matter rested with the returning officer instead of the voters; to have so redoubtable a champion as "WYLD SAVAGE" ride into the lists, determined to "do or die" for Marie Van Houtte or La Belle Lyonnaise, was in truth appalling, and like a bucket of cold water unexpectedly poured down your back in the depth of winter. But as many of us know that to the cold water there is a "jolly" reaction, so is there after "WYLD SAVAGE'S" cold douche, for private letters and your esteemed correspondents, including my friend "WYLD SAVAGE," have salved over any wound that the thorns had made.

I should, indeed, be ungrateful did I not acknowledge warmly the kind expressions of thanks for what really has been a labour of love, as "D., Deal," puts it. It is a labour, too, which makes me feel that I know some of the correspondents of our Journal as well as possible, even though I have never had the great pleasure of grasping their hands, for tied as I am professionally, spare moments do not come sufficiently together to enable me to visit exhibitions where I might see them in the flesh. To all who have written so kindly my hearty thanks are due, and if they are herein given but feebly, I can assure them they are most warmly felt.

If able and spared to undertake the 1877 election, it will be in some respects more in accordance with "Savage" ideas. It will be an "exhibition" and "garden" election, and the only punishment I shall inflict on "WYLD SAVAGE" will be that he must himself induce "Hercules" to put pen to paper for the former.

I will in conclusion just remark, that the difference of a vote more or less has a very marked effect on the position of a Rose at the close of the poll. Take for instance "WYLD SAVAGE'S" Duke of Wellington, which he justly remarks is so much higher in the supplementary list. Deduct from it one first-class vote, and 27 immediately becomes 33—a startling difference. So shaking hands with "WYLD SAVAGE," who is neither so *wyld* or so *savage* as his first onslaught appears to be, I again say to all helpers, Many thanks.—JOSEPH HINTON, *Warminster*.

### BEDDING GERANIUMS.

"C. P. P." appears to have an unlimited supply of Mr. Pearson's varieties, but there are sorts of other good growers which he never alludes to, let alone the good old varieties. What a small list of Roses there would be if all the old varieties were discarded! I was much struck by the following remark of a lady on looking at a bed of *Lucius* Geranium:—"I cannot bear those large heads, for they are always shabby in the middle before they are out at the sides." And is not this

what we all regret, and therefore should aim at kinds having good trusses and all the flowers opening together? If large growers would send well-tested lists it would aid many who, like myself, rejoice in a really good new variety, but who are often disappointed at finding some that they have been recommended to buy not being so good as they expected. Mr. Cannell's division of the colours into sections might suit, putting z for Zonal, n for Nosegay, and w when the flower has a white eye.—AGE.

### EARLY APPLES.

It is not a little humiliating to one, but I feel I must confess that at the age of fourteen to sixteen years old I knew more about early eating Apples than I do now. This is simply because I have not since had the rich store of varieties to practise upon. I then undoubtedly made good use of the opportunity, and could tell where the best fruit were to be found at any time. I knew each one's season of ripening, and I was not to be deceived in the name of an Apple by eating it in the dark. I knew, too, how to get a long pointed stick and take the Apples through a certain hole in winter from the fruit-room. I was particularly acquainted with most of the Apples mentioned of late in this Journal, but none of them equalled a favourite of mine, called "Vann's Pippin." I think it is a local variety, for I have not met with it in any other place. To me it seems that this Apple is to other varieties what a well-ripened Green Gage Plum is to an Orleans; indeed, like the Green Gage, the riper Vann's Pippin is it the more delicious. We find many Apples after being ripe pass to a dry mealy state, but not so this variety. It is at the same time the best early cooking Apple I ever met with. The tree is a prodigious bearer. I have known really good crops the second year when grafts have been placed on large trees.

I have not seen this Apple for more than twelve years, but writing from memory I would describe the fruit of medium size, in colour pale straw, conical; eye close and small, and set in a shallow basin, and stalk long and slender set in a rather deep cavity. It is an Apple that I can strongly recommend to any person; "WILTSHIRE RECTOR," I feel sure, would be pleased with it. I know no nurseryman who sells it, still I have no doubt that grafts or trees are obtainable.—JOHN TAYLOR, *Hardwicke Grange*.

### HARDY FLOWERS IN KEW GARDENS.

*SAXIFRAGA FORTUNEI* is now the most ornamental of all the herbaceous and alpine plants at Kew. A profusion of pure white flowers are borne above a mass of very handsome dark green leaves. This plant is on the rockwork, where it is quite hardy. *Oxalis lobata* is one of the gems of the genus, and is perfect in its habit of growth. It forms a neat tuft of leaves close to the ground, and on short stems above appear a multitude of golden yellow flowers. *Polygonum vaciniifolium* is another very elegant plant for rockwork; it has the most delicate spikes of pink flowers imaginable, produced on wiry stems with small leaves.

Several autumnal Croci are now in flower, and it can but be said that they are deserving of far more attention than they receive in gardens. *C. Boryi* is one of the most beautiful of all Crocuses; its flowers are creamy white with orange-red stigmas. *C. cancellatus* is another white kind, easily distinguished by the coarse thick coats of the corm, though it may be said that all the species can be known by characters afforded by the corm. *C. longiflorus* has fragrant lilac flowers with a yellow throat. It is often called *C. odoratus*. *C. serotinus* and its variety *Salzmannii*, have also lilac flowers. Both are rare. *C. byzantinus*, sometimes known as *C. iridiflorus*, is blue-purple without variegation. It is remarkable for the small size of the inner perianth segments. *C. nudiflorus* is one of the most common, both wild and cultivated; it increases freely, and is naturalised about Nottingham and in two other districts. The flowers are blue-purple. *C. speciosus* is one of the largest and most effective; the feather-veining is beautifully apparent from the darker colour of the veins. It might be largely used for greenhouse decoration, and would be valuable, as flowering naturally at the present time when flowers are scarce. The trouble need receive no consideration, as the corms only require to be potted from the open ground when the buds are visible. No more roots need be taken than can conveniently be managed, though without doubt it would be best to accommodate as many as possible. In a dry room with fire a corm

without roots has just developed a perfect flower from a small bud.

A beautiful variety of the Strawberry Tree (*Arbutus Unedo*) is flowering on the lawn between the Cactus house and the old museum. The flowers are nearly twice as large as those of the common form, and moreover on the exposed side have a deep crimson blush, to which chiefly is due the great attractiveness of this variety. The leaves, too, are of greater breadth than in the type, and the stems more decidedly red. It is quite distinct, and deserves to be well known both as an ornamental shrub and as a floral ornament.

## ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 8TH.

WHATEVER impediments have had to be encountered in endeavours to extricate the Society from its difficulties and place it on a satisfactory basis, the Council have been encouraged by many expressions of confidence on the part of those immediately connected with horticulture. Ever since the great exhibition so spontaneously and gracefully made last year by the principal nurserymen, the exhibitions and meetings have been extremely gratifying. The Committee meetings have especially been well attended, and many subjects of great importance have been submitted at these practical and undemonstrative gatherings. But for respect for the "old Society," and faith in the policy of those by whom it is represented, the meeting of to-day would have been a comparative blank, for the great show appointed to be held was officially abrogated, and there was left only private enterprise and public zeal to atone for the sacrifice which it was found necessary to make. It is this enterprise and zeal which have made the Exhibition of to-day—another instance that horticulture is neither dead nor dying—another proof that the Royal Horticultural Society enjoys the confidence of many friends.

The only prizes offered on this occasion were those provided by the firms of Messrs. Carter & Co. of High Holborn and Messrs. Sutton & Sons of Reading. These prizes were liberal, and were responded to with collections worthy of the repute of the seedsmen and of the cultural ability of the exhibitors. But besides this competition there were honorary contributions of great merit, extent, and variety.

Messrs. Veitch were not afraid of bringing from their stoves valuable Orchids on the sharp frosty morning, nor Mr. B. S. Williams plants similarly tender. Mr. Willis also staged some of his new *Dracenas*; Mr. Ollerhead, gardener to Sir Henry Peek, Orchids; Mr. Smith, Ealing, and Mr. Lowe, Uxbridge, *Cyclamens*; Mr. Turner, Slough, a grand collection of *Chrysanthemums*; Messrs. Veitch & Sons also sending a collection with very fine blooms. These with the Grapes from Mr. Wildsmith, the Pines from Mr. Hunter, and the splendid collection of Pears and Apples from Mr. Haycock, gardener to R. Leigh, Esq., Barham Court; and from Mr. Ford, gardener to W. E. Hubbard, Esq., Leonardslee, Horsham, and numerous other exhibits, quite filled the Council-room and French courts, and made one of the most interesting exhibitions that has been seen for some time.

Mr. Turner's *Chrysanthemums* were vigorously-grown well-bloomed plants, the large-flowered varieties occupied the whole length of the long court, with Pompons at the end of the room. Time does not permit an enumeration of the varieties, which embraced all the best in cultivation. Messrs. Veitch's plants were noteworthy for their superior blooms, and the standard Pompons also staged by this firm were extremely effective. Messrs. E. G. Henderson & Sons, Wellington Road Nursery, also exhibited plants in exuberant health and with fine blooms.

The Grapes exhibited by Mr. Wildsmith comprised Burchard's Prince, Bowood Muscat, Lady Downe's, White Tokay, Gros Colman, White Nice, Gros Guillaume, Calabrian Raisin, Mrs. Pince, Muscat of Alexandria, Alicante, Trebbiano, and Black Hamburgh. Many of them were exceedingly fine, notably Gros Guillaume, Gros Colman, Lady Downe's, and Bowood Muscat.

The fruit from Mr. Haycock comprised thirty-seven dishes of Apples and twenty dishes of Pears, every variety being in really splendid condition; indeed finer fruit has seldom, if ever, been staged. The Calville Blanche Apples were of enormous size, and really splendid were Beauty of Kent. Cox's Pomona, Reinette d'Espagne, Reinette du Canada, Ribston Pippin, Emperor Alexander, &c., were in a perfect state, and particularly attractive was the Lady Apple, Pine Apple Pippin, and other small kinds. The Pears also were of equally high merit, Doyenne du Comice, Triomphe de Jodoigne, Beurré d'Anjou, Easter Beurré, Winter Nelis, Olivier de Serres, Beurré Bachelier, and some others, being represented by dishes of unusual excellence. This fruit was grown on the French system on horizontal and diagonal cordons, the Apples being on Paradise stocks. Mr. Ford staged fifty varieties of Apples and twenty of Pears, most of the dishes being highly creditable. Mr. Earley, The Gardens,

Valentines, Ilford, staged twenty-four varieties of Apples and Pears, including some good dishes. Mr. Fanning, gardener to Madame Digby, Roehampton, staged thirty-two admirable dishes; and Mr. Pragnell, gardener to G. D. W. Digby, Esq., Sherborne Castle, Dorset, eighteen dishes of excellent fruit.

Mr. Osman, South Metropolitan Schools, Sursey, exhibited magnificent heads of Veitch's Giant Cauliflower; Mr. Gilbert, Burghley, Canadian Wonder Beans; Mr. Parsons, Welwyn, superior examples of Magnum Bonum Onions; Mr. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, a dish of Ross's Criterion Potato, resembling Schoolmaster. Mr. Turner, Slough, exhibited a splendid dish of Schoolmaster, Bailey's Red Beet, Early Jaulin Savoy, very superior, and Bailey's Selected Cabbage, which is evidently a variety of great merit. Mr. Brown, gardener to F. T. Barry, Esq., Clock House, Beckenham, staged very large Celery—Grove White and Leicester Red; and Mr. Sidgar, Hammersmith, exhibited eighteen excellent heads of Celery in six varieties. A very numerous and superior collection of Potatoes, Onions, Gourds, &c., were exhibited by Messrs. Carter & Co.; and a similarly large, varied, and excellent contribution, including also Succulent plants, came from Mr. R. Dean, Ealing. A cultural commendation was awarded to Mr. Pragnell for an excellent collection of salad vegetables.

PRIZES OFFERED BY MESSRS. JAMES CARTER & CO.—For the prizes offered for twelve Pinesfield selected white Spanish Onions fifteen competed, the prizes going to Mr. Cross, gardener to J. Hough, Esq., Peak House, Sidmouth; Mr. Cave, Pinesfield Farm, Rickmansworth; and Mr. Neal, gardener to P. Southby, Esq., Bampton, Oxon, in the order named. All the bulbs being fine, the first-prize lot being highly superior and decorated with the "blue ribbon."

In the class for the best ten dishes of vegetables, including Carter's Heartwell Early Marrow Cabbage, ten competed, the first prize going to Mr. Pragnell, gardener to G. W. D. Digby, Esq., Sherborne Castle, Dorset, for a grand collection; Mr. Miles, gardener to Lord Carington, being second, also with splendid produce; Mr. Baker, Broad Street, Brompton, Farringdon, being placed third; and Mr. Lumsden, Bloxholme Hall, fourth. The vegetables in this class were of very high quality and won general admiration.

In the class for eight dishes of Potatoes, including Carter's Ashtop Fluke, Carter's American Breadfruit, and Porter's "Excelsior," eight competed. Mr. McKinlay, Beckenham, Kent, was placed first; Mr. Miles, Wycombe Abbey, second; and Mr. Baker, Brompton, Farringdon, third; the fourth prize-winner we could not ascertain. The tubers were extremely fine throughout these collections.

In the class for three specimens of Carter's Heartwell Early Marrow Cabbage, twelve competed. Mr. Neal, Bampton, being placed first; Mr. Pink, The Gardens, Lee's Court, Faversham, second; and Mr. Baker, Brompton, third. All staged superior examples of one of the finest sorts of Cabbage in cultivation.

PRIZES OFFERED BY MESSRS. SUTTON & SONS.—For twelve Sutton's Improved Reading Onions. First, Mr. G. Neal, gardener to P. Southby, Esq., Bampton, Oxford; and second, Mr. W. Cross, gardener to J. Hough, Esq., Peak House, Sidmouth. Eight exhibited in this class, and neither Messrs. Sutton nor the public could find fault with the produce.

In the class for a collection of Potatoes, twelve dishes, distinct kinds, grown by the exhibitor, six dishes round, and six dishes kidney. First, Mr. P. McKinlay, Woodbine House, Beckenham, who won the gold medal with Porter's Excelsior, Emperor, Redskin Flourball, Model, Scotch Blue, Climax, Salmon Kidney, King of Potatoes, Snowflake, Hundredfold Fluke, Purple Ashleaf, and Excelsior Kidney. Second, Mr. J. Pink, The Gardens, Lee's Court, Faversham (silver medal). Third, Mr. Lumsden, gardener to Sir R. C. N. Hamilton, Bloxholm Hall, Sleaford (bronze medal). Seven competed.

A collection of vegetables, twelve distinct kinds, including Sutton's King of the Cauliflowers, Sutton's Improved Reading Onion, Sutton's Student Parsnip, Sutton's Sulham Prize Celery, and Sutton's Improved Dark Red Beet. Mr. Pragnell, Sherborne Castle, won the gold medal; second Mr. R. Gilbert, gardener to the Marquis of Exeter, Burghley, Stamford (silver medal); and third Mr. Lumsden (bronze medal). Eight competitors.

The several collections staged in competition for all the above prizes were of highly superior quality, and it was no easy task for the Judges to decide on the relative merits of the produce of the successful competitors.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Williamson, gardener to C. N. Hatten, Esq., Bellair, Dulwich, sent two Pine Apples, one of which was the variegated variety and the other the Queen, and a letter of thanks was awarded. Mr. Woods, gardener to E. W. Walker, Esq., Bury Hill, Mansfield, sent two Pines which were passed.

Mr. Newton of Newark-on-Trent sent two bunches of Grapes, one Châpail and the other Black Damascus. The latter was of good flavour, but the other was not possessed of any particular

merit. Mr. Gilbert, The Gardens, Burghley, sent two seedling Apples, Captain Nares and First Lord, but they did not possess any merit superior to other varieties of this season. Mr. Gilbert also exhibited an Enville Pine. A fine basket of Trebbiano Grapes was also exhibited by Mr. Gilbert. The fruit was finely grown, well coloured, and of excellent flavour. A letter of thanks was unanimously awarded. A dish of very handsome Blenheim Pippin Apples and a dish of Uvedale's St. Germain Pear were exhibited by Captain Greville, R.N., Osmanthorpe, Laleham. A letter of thanks was awarded.

Mr. Woodbridge, The Gardens, Sion House, Isleworth, sent fruit of the Diospyros Lotus, for which a letter of thanks was awarded. The fruit is small and oblate, the size of a large pea, and yellow. F. W. Yorke, Esq., Oundle, sent a seedling Apple, which was not superior to other varieties already in cultivation. Mr. B. Spooner of Harrow, Middlesex, sent a seedling Apple like a large yellow Ingestrie, which was passed for the same reason. Mr. Clark, gardener to the Rev. A. D. Stackpole, Writtle, Essex, sent five dishes of Marie Louise, Uvedale's St. Germain Pears, and Margil and Ribston Pippin Apples, and fruit of Black Hamburg Grapes ripened out of doors. A cultural commendation was awarded for Marie Louise, and a letter of thanks for the rest of the collection. Stephen Swanston, Esq., Glastonbury, sent fruit of a seedling Pear found growing in a hedge. The fruit possesses considerable merit, and has a fine rose-water flavour. The Committee expressed a desire to see it again, with particulars as to its origin. Mr. G. F. Wilson, F.R.S., Heatherbank, Weybridge, sent a dish of the fruit of Diospyros Kaki, a Japanese fruit, to which a cultural commendation was awarded.

Mr. Bennett, Rabley Gardens, Herts, sent a pot of Vicomtesse Héricart de Thury Strawberry under the name of Garibaldi, full of fruit. Fruit of Golden Queen and Mrs. Pearson Grapes were exhibited by Mr. J. R. Pearson, Chilwell; both of these had received certificates on former occasions. The bunches were very large and handsome, and the flavour excellent. A cultural commendation was awarded. There were thirteen varieties of Grapes shown from the garden of the Society at Chiswick. A seedling Grape was exhibited by Mr. Tillery of Welbeck, raised between Lady Downe's and West's St. Peter's, but it was not considered of great merit. A fine collection of thirteen varieties was also sent by Mr. Tillery. Mr. Wildsmith, gardener to Lord Eversley, Heckfield, sent a large collection of Grapes, among which were Venn's Black Muscat and Muscat Hamburg. The former was very much shrivelled and richly flavoured. In the opinion of the Committee the two varieties are quite distinct. G. D. W. Digby, Esq., of Sherborne Castle, sent four very handsome Smooth-leaved Cayenne Pines, to which a cultural commendation was awarded.

**FLORAL COMMITTEE.**—W. B. Kellock, Esq., in the chair. Messrs. Veitch & Sons' collection of plants in the Council-room was extremely attractive. It comprised Crotons Disraeli, Macafeanus, and Picturatus, all highly superior; Dracaena Hybrida and Taylori; Rhododendrons Princess of Prussia and Duchess of Edinburgh, very handsome. The Orchids embraced Oncidium ornithorynchum, tigrinum, papilio-Kramerii, and Wiltoni; Vanda cœrulea, Zygopetalum Maackii, Odontoglossum Alexandræ, Milionia Moreliana, Cattleyas Fausti exoniensis and Dominianum, Pleione maculata, Cypripedium Maulei and Sedeni; also Calanthes. The collection also included the beautiful Maranta Massangana and a remarkable plant of Hamanthus cinnabarinus with three extraordinary heads of flowers. A vote of thanks was awarded. Sir Henry Peck's Orchids comprised Pleiones, Cypripediums, Oncidiums, Cattleyas, Vandas, &c., and a vote of thanks was deservedly awarded to Mr. Ollerhead for the collection.

Prominent in Mr. Williams's fine group were Cycas intermedia, Odontoglossum grande, Oncidium macranthum and O. Barkeri, Adiantum digitatum and A. gracillimum, Masdevallias, Crotons, Cypripediums, and a well-flowered plant of Eucharis amazonica. Mr. Wills exhibited a large group of Palms and other decorative plants, and the thanks of the Committee were awarded for both these collections.

A remarkably well-flowered plant of the beautiful Dendrobium Wardianum was sent by W. H. Michael, Esq., for which a cultural commendation was deservedly awarded. Mr. Wills submitted small plants of Dracaena Carolette, the foliage being regularly and brilliantly marked. It is a plant of the greatest excellence for dinner-table decoration, and was well worthy of the certificate which was attached. Mr. Strahan, gardener to P. Crowley, Esq., Waddon House, Croydon, received a first-class certificate for Casuarina sumatrana, a plant of the greatest elegance for table decoration. Mr. Dean exhibited Lee's Prince Consort Violet, the finest and sweetest of Violets. Mr. Westcott, gardener, Baby Castle, Darlington, staged Capsicum Princess of Wales, the plants being robust and laden with bright yellow pods. The Hon. and Rev. J. T. Boscawen, Lamorran, Cornwall, exhibited Liliun neilgherrense, one of the finest of trumpet-shaped Liliums. Mr. Moorman, gardener to the Misses Christy, Coombe Bank, Kingston-on-Thames, and Mr. Baker,

gardener to W. H. Punchard, Esq., Twickenham, exhibited excellent cut blooms of Chrysanthemums, and received the thanks of the Committee.

Mr. Turner, Slough, exhibited the new perpetual-flowering Carnation Scarlet Dragon, which received a first-class certificate. It is not only the finest of Carnations of its section, but is one of the most valuable of all plants for winter flowering. Mr. Gilbert, The Gardens, Burghley, sent double Primulas with very fine flowers. Mrs. Laxton, Mrs. Barron, Lady Laura, and Ne plus Ultra being almost identical, blush white tinged with pink; Princess Louisa being the best of the rose-coloured varieties.

Messrs. E. G. Henderson & Son exhibited Coleus Pine Apple Beauty, very gay and the best of the Lady Burrell type. The same firm also exhibited Kyllingia monocephala, a distinct and elegant Grass, and Mr. Wildsmith a seedling Echeveria. Mr. Smith, Ealing, and Messrs. Lowe, Uxbridge, had votes of thanks for their excellent collections of Cyclamens, and a similar award was made to Mr. Cannell for zonal Pelargonium "New Life," the scarlet flowers being distinctly striped with white, the plant being of dwarf habit and a free bloomer. J. Tyerman, Esq., Penlu, Cornwall, had a vote of thanks for his Groundsel, a large single flower 2 inches in diameter and effective.

Henderson's seed pocket-filler was exhibited by Blake and Mackenzie, Liverpool. It is a very ingenious contrivance for filling seed pockets with any weight of seed required by the simple turn of a handle; it is, in fact, a labour-saving machine, likely to be of great use to retail seedsmen. Mr. Matthews, The Potteries, Weston-super-Mare, exhibited a plant-protector, which may be described as an earthenware seed pan minus its bot. cm. From the Society's garden at Chiswick came a branch of *Dania imperialis* laden with numerous striking single blush flowers. This is a seldom seen but most effective plant for winter decoration.

Gold medals from the Davis fund were recommended to be given to Messrs. Veitch & Sons, Mr. C. Turner, Mr. Wildsmith, Mr. Haycock, Mr. R. Dean, Mr. Wills, and Mr. Ford for the excellence of their collections.

### TROPEOLUM SPECIOSUM.

I AM very pleased to think this lovely plant has been noticed by two of your correspondents, and as it seems to have but slight acquaintances in the south I write a few observations respecting it.

My first acquaintance with it was at the Gardens, Holkham Hall, Norfolk, where it was grown under a north wall; a permanent 12-feet-high wire trellis being fixed, where it was allowed to climb without any pinching, and only an occasional tying to preserve neatness.

On the approach of fine spring weather it soon began to push up its somewhat delicate-looking shoots, and seldom failed, when the length of 2 or 3 feet had been gained, to throw out its charming scarlet flowers. To see a wall massed with it is simply to survey a gorgeous spectacle, the small dark green leaflets contrasting with and toning down the brilliant colour effectively. At Holkham it was the wonder of all who saw it. It kept in flower during a considerable part of summer, looking best during the autumn months, and continuing its beauty till the November frosts effectively blackened its gay appearance. The season's growth was afterwards cut back to its base, and the plant was allowed during winter to take its chance unprotected by any other covering than the soil it was planted in. It generally flowers much more freely on a north wall in the southern and midland counties than in a more sunny position, and though "A RAMBLER" does not mention explicitly its aspect in that lovely northern nook, yet we can guess what the effect would be in the romantic surroundings which pervade that part.

I trust that others may be induced to bring this plant under the notice of your readers, as it is truly well worthy a prominent position in every gardening establishment.—R. B.

### NOTES AND GLEANINGS.

We are very pleased to know that the Hon. and Rev. J. T. Boscawen purposes, at the centenary meeting of the Bath and West of England Society next year, asking the Council to allow him to offer two cups of the value of ten guineas each for the best twelve TEA ROSES, one cup to amateurs, the other to nurserymen. He will ask all the leading Rose-growers to join in a sweepstakes, each exhibitor paying an entrance fee, say 10s. or £1, the money to go with the cup. A second prize will also be given by the Society to enable prizetakers to pay expenses.

—MR. E. WILSON writes, "I find Veitch's RED GLOBE TURNIP to be a first-class sort—in fact the best I have grown



this season amongst three or four other kinds; for while White Dutch, Golden Ball, Chirk Castle, &c., were rendered keen and stringy by the very hot weather we had this last summer, Veitch's was mild and tender, which is a great consideration."

— THE FLORAL DECORATIONS AT THE GUILDHALL on the 9th inst. have been entrusted to Mr. John Wills. Nine hundred button-hole bouquets will be made-up by Mr. Wills for the occasion. The groups of plants employed in the decoration of the corridors, porticos, &c., will also be of the choicest character.

— WE have received from Messrs. Dick Radclyffe & Co. samples of TOUGHENED GLASS for horticultural structures and roof lights, and find it what it is represented—as being really tough and unbreakable by any fair means. The square which we tested was at least ten times stronger than ordinary glass of the same thickness. It was little more than one-sixteenth of an inch thick, and might be termed 16-oz. glass. When laid on the floor it was trampled upon by a person weighing 14 stones and bore the weight bravely. It was broken at last by a test far exceeding the force of any hailstones which we have observed. It is as clear as ordinary glass, but not quite smooth, being "wavy" and containing some lens. If the glass retains its extraordinary cohesion under the heat of summer and the frost of winter, and if the foliage under it does not scorch, the invention will prove of great value. The tile made of the same glass combines great strength with admission of light.

— WE recently saw a break of CARROTS in old kitchen-garden soil where for years they had been destroyed with worms, part of which was this year well watered, before the seed was sown, with water to every four gallons of which were added two wine-glassfuls of paraffin oil, and the portion of the break so watered was bearing a luxuriant crop of Carrots, while on the portion not watered they failed as usual.—(*Gardener.*)

— A VERY successful instance of GROWING GRAPES IN THE OPEN AIR is afforded in the gardens at Vinters Park near Maidstone. A Sweetwater Vine on an east aspect has this season ripened four hundred bunches of really excellent Grapes, which have been very serviceable and greatly esteemed for dessert purposes. To grow out-of-door Grapes successfully the same care in thinning the fruit and dressing the growth is necessary that Mr. Record has given to this Vine. When we saw it the wall was literally covered with well-finished bunches. It is passing strange that while so much attention is readily given to Vines under glass, those on walls are almost systematically neglected. By a selection of proper sorts and good cultural attention many having south walls might have Grapes equal to those which Mr. Record produces on an eastern exposure, and for which he received a cultural commendation last year from the Royal Horticultural Society. As to the management of out-of-door Vines Mr. Douglas gives sound instructions in another column.

— AT Muckross Abbey, the seat of H. A. Herbert, Esq., M.P., there are several specimens of CEDRUS DEODARA bearing cones. These are borne on the branches that come quite to the ground, continuing to within 3 feet of the top. They are not borne on the young wood, but are found on the upper side of the branches, growing perpendicularly, and not nearer than 12 inches to the outside of the branch, which leads Mr. Campbell, the gardener, to think that it is the old and matured wood that bears cones. The size of the cones are increasing rapidly. Some are 2½ inches in length by 2¼ in circumference, but he doubts if they will perfect their seed.

— AT the Philadelphia Centennial Exhibition the show of POTATOES is described as exceedingly fine. Messrs. Bliss exhibit 387 varieties, including fifty fine English and five French seedlings; also a hundred new seedlings from Pringle's hybridised seed not yet in commerce. In the immense collection shown by Dr. Hexamer may be seen side by side the work of the past with the promise of the future. Every known variety of excellence both in Europe and in America is brought together, making in all five hundred named kinds.

— THE annual general meeting of the WEST OF SCOTLAND ROSARIANS' SOCIETY was held in the Town Hall, Helensburgh, on the 28th ult. The Society appears to be in a very satisfactory condition, the membership being considerably larger than that of last year, and after paying all accounts, including over £70 for prizes, there is still a balance left in the hands of the Treasurer. The office-bearers and Directors for the ensuing year were elected, and it was resolved that the next exhibition

of the Society should be held in Helensburgh on July 13th and 14th. Votes of thanks were awarded to the office-bearers and Directors for their services, also to Alexander Breingan, Esq., for the use of Westwood Park, gratuitously granted for the use of the Society. Mr. John Mitchell, Brooklee, is the Honorary Secretary.

— FOR producing a rich glow of brilliant scarlet flowers during the autumn months on walls and trellises the LOBBIANUM section of TROPEOLUM are well adapted. They are far more effective and floriferous than the common Nasturtiums, and grow with even greater freedom than these. We have to-day (November 6th) been admiring a variety of T. Lobbianum which is covering a wall having a due north aspect, and the effect is quite dazzling, while the Dahlias near are killed by the frost. Under glass these Tropæolums continue flowering throughout the winter, and are valuable in producing a supply of orange-scarlet flowers. The plants may be raised either from cuttings or seed.

— THE appointment of Mr. Frederick Moore, eldest son of Dr. Moore of Glasnevin, to the CURATORSHIP OF THE UNIVERSITY BOTANIC GARDEN, Ball's Bridge, is calculated both to give satisfaction to the governing body of the institution of which the garden is an appanage, and to enhance the teaching value of the latter to students and visitors. Mr. Moore is highly educated, and has had careful training both at home and on the Continent to fit him for filling this or a similar post. Mr. Moore has been perfecting himself in the practical part of his profession at the establishment of the late M. Van Houtte at Ghent and also at Leyden.

— THE next BATH MEETING of the Bath and West of England Agricultural Society is fixed to be held on the 4th of June, 1877.

— INSTEAD of finding VERONICA BLUE GEM indifferently grown in only a few gardens, we can only wonder that it is not well grown in all gardens. Where a profusion of blue flowers are required for cutting from the present time until January, this Veronica should certainly be grown. The plant is of compact yet pleasing habit, and its small glossy-green leaves set off the lovely-coloured flowers to great advantage. The plant is of the easiest culture—so easy that perhaps the best mode to adopt is to plant it out in good soil and an open situation in May, and pot it in October. We have recently seen plants 2 or 3 feet in diameter which have been so grown now perfectly established under glass, and, yielding large quantities of flowers much prized for bouquets and room decoration.

— A FINE companion plant to the valuable scarlet Geranium Vesuvius for winter flowering, is the rosy-salmon variety Mrs. G. SMITH. We have lately seen batches of these varieties which cannot fail to be of great value for a long time to come. They are throwing-up trusses as freely as in summer, and the brightness of one variety and the soft pleasing colour of the other produce an effect which none can pass without acknowledgment. Mrs. G. Smith is a perfectly-formed flower, and is a very desirable variety for cultivation in pots.

— WE have accounts from various districts of the spread of the POTATO DISEASE. Since the rains have abated and the temperature has fallen the disease has been checked so long as the tubers remained in the ground, but when stored at all thickly it has spread with considerable virulence. Especially since the disease has asserted itself the advice to "store dry, thin, and cool" cannot be repeated with too much emphasis, as the best means of modifying the effects of an unfortunate visitation.

— WE regret to announce the DEATH OF MR. EDWARD GEORGE HENDERSON of the Wellington Nursery, which took place on the 4th inst., in the ninety-fourth year of his age. Mr. Henderson was the founder of that important nursery, and was an energetic and successful horticulturist. On account of advancing age he had for some years prior to his death ceased taking an active part in the business, which will therefore be continued without any change in its management.

#### METROPOLITAN FLORAL SOCIETY.

IN his paper on Tulips in last week's Journal Mr. Douglas has made a statement with reference to this Society at which I am very much surprised, and which I take the earliest opportunity of correcting. He says that its members did not pull well together, and that hence nothing was done this year. I

can only say that I have never known any difference of opinion even amongst those who had to work it, save that Mr. Douglas himself, with a chivalry worthy of his name, thought we ought with an empty exchequer to have offered prizes and arranged for an autumn show this year. The truth is, we were from the very first dependant on the contributions of one of the great Companies—the Crystal Palace or Alexandra—for our existence, and when they both gave us up we had nothing to fall back upon. Autumn shows do not pay in London, and the Crystal Palace Company is obliged to add other attractions to make theirs pay. Florists' flowers seem hopelessly at a discount in the south.

Mr. Douglas alludes to the fine bank of Picotees and Carnations at the Royal Horticultural Society in July. There were fine flowers there according to the present notion, but there were just five exhibitors—three from the neighbourhood of London, one from Ipswich, and one from Bath—a very poor foundation on which to rest a hope of a revival of the taste. He speaks of the National Auricula Society coming to London. I should be delighted to see it hold its show there, but they will not come unless some society guarantees them £20, the same that the Manchester Botanical Society gives them, and I do not know where the money is to come from.—D., Deal.

### PLANTS SUITABLE FOR DINNER-TABLE DECORATION IN WINTER.

In the summer season when plenty of flowers can be gathered out of doors it is a simple matter to make the dinner table attractive, but for the next five or six months plants will have to be chiefly depended upon for table adornment. Many plants which are extremely ornamental and becoming on a table surrounded with flowers lose much of their beauty without them. These are mostly green-leaved plants; but there are others, again, which instead of cut flowers adding to their beauty they only detract from it. It is this latter class of plants which should be cultivated almost exclusively for winter table decoration. All plants for the dinner table should be as elegant in habit and as different in character as possible, because when one plant is placed very frequently on the table it appears to lose much of its attractiveness, and plants which are similar to one another are not likely to be fully appreciated. The following are enumerated as superior:—

*Dracenas*.—Some of these are amongst the best of plants both in habit and colour for placing singly on the centre of the table. Some excellent new varieties have been raised lately; and although many of them are well adapted for growing into specimens for exhibition purposes, I have not found any of them more useful for table decoration than the old *D. terminalis* and *D. terminalis stricta*. They are compact in habit, with elegant leaves; their colours are always bright and pleasing, the rich bright crimson being especially attractive in both natural and artificial light. *D. Cheloni* I consider too dark in colour for our purpose, and the same might be said of *D. Mooreana* and one or two others. Indeed none of those of deep metallic hue are very showy on the table. All the *Dracenas* of the indivisa section are excellent plants for the table, as they are most elegant in habit, and they may be grown in a cooler place than most of the other sorts. *Dracenas* are easily multiplied by cutting up the stems into pieces about 2 inches long and covering them over with soil in a smart bottom heat any time during the winter. They may be laid closely together, and when the leaves are about 3 inches long the young plants should be potted singly into small pots, using a mixture of loam, peat, and silver sand, and shifting into larger pots as it becomes necessary. The leaves should be sponged frequently to keep them free from insects and dust.

*Pandanus Veitchii*.—This is the finest of all the Screw Pines, and undoubtedly the best for table decoration, both its form and colour being in its favour for this purpose. The leaves are splendidly striped with lines of deep green and pure white, and droop in a graceful manner. Plants for the table may be grown in 6-inch pots. I find the leaves are brightest in colour when the plants are grown amongst plenty of silver sand.

*Aralia Veitchii*.—In a small state this plant is exceedingly elegant in outline, its slender undulated leaves being of a beautiful dark glossy green. It is quite different in character from the preceding, and is a fine change from it on the table. It is propagated from cuttings and eyes, and thrives in a mixture of peat and silver sand.

*Abutilon Darwinii tessellatum*.—This is the finest marked of

all the *Abutilons*, and a plant which nearly everyone admires. Its habit is not quite perfect for the table, but its curious marking makes up for this slight deficiency. The leaves grow to a good size, and are beautifully marked all over with small squares of deep green and golden yellow, the latter appearing on the former like particles of inlaid wood. It is raised from cuttings, and grows freely, under greenhouse treatment, in a mixture of loam, leaf soil, and sand.

*Palms*.—*Cocos Weddelliana* and *Geonoma gracilis* are amongst the finest for table decoration. Both are alike elegant, only the latter droops a little more than the former, and is slightly paler in colour. Both require a stove temperature, and luxuriate in a mixture of peat and sand. There is nothing peculiar required in their treatment, and they may be grown successfully in any stove structure.

*Crotons*.—The best of these are *C. majesticum*, *C. picturatum*, *C. Johannis*, and *C. Youngii*. No other plants possess the same colour and habit as these, their long, narrow, green, yellow, and crimson leaves having a grand appearance. They are propagated from cuttings, which require a warm place and good attention to strike them, but when once rooted they grow freely amongst other stove plants, provided their pots are well drained and the roots have some good peat and silver sand to work amongst. They are rather subject to the attacks of insects, especially thrips and red spider, and to prevent these from doing harm the leaves must be frequently sponged and syringed.

*Ficus elastica*.—This is not by any means such a rare or even beautiful plant as any of the above, but it is easily grown, and on this account it may meet the wants of many; and at the same time it is not wholly destitute of ornament, as the dark, bright shining green leaves have a very massive appearance, and they have the advantage of remaining fresh in close rooms much longer than is good for most plants. It is only in a young state when the plants are from 12 to 18 inches high that they can be used on the table. I have propagated numbers of this plant without the assistance of bottom heat by simply making the eyes like Vine eyes and inserting them singly in small pots filled with a mixture of leaf soil and sand in about equal parts, and placing them in a close frame until they were rooted. These plants will grow in almost any kind of soil, and do not require a warmer place at any time than a greenhouse.

*Epiphyllums*.—Many of these are in perfection just now, and a succession of them will keep on flowering for the next few months to come. When well grown and bloomed no flowering plants are more lovely on the table. The best plants for this purpose are those with stems from 1 to 2 feet in height with drooping bushy heads. To have them in this form they must be grafted on the *Pereskia* or some other suitable stock. Plants "worked" now would be in good decorative condition two years hence. They delight in a rough soil such as fibrous loam, peat, silver sand, and small lumps of charcoal and broken pots or bricks. They do not require potting every year, and useful plants may be grown for a long time in 6-inch pots. They should be grown in a warm moist place, and removed into a cooler and drier situation when the growth is completed. They should be kept rather dry at the roots when the plants have ceased growing, but they must not be allowed to shrivel up for want of water. All insects, especially mealy bug, must be sponged-off, care being taken to clean it well out from the joints of the leaves. A few good varieties are *E. truncatum amabile*, white, upper part of the petals marked with purple; *E. truncatum cruentum*, dark purple; *E. truncatum roseum*, bright rose; and *E. truncatum coccineum*, deep scarlet.

*Spiraea japonica*.—Well-grown plants of this old Meadow-sweet when forced into flower in the winter time are well adapted for the table, the deep green leaves and pure white flowers being in excellent harmony. *Spiræas* delight in an open soil, with plenty of water at the roots while growing, and may be had in flower any time from November until April.

*Ferns*.—The old *Adiantum ouneatum*, and indeed most of the Maidenhair section, are suitable for the table. *A. gracillimum* is very neat, but not quite showy enough; but the opposite is the case with *A. Farleyense*, the fronds of which when fully developed have a rich appearance by artificial light. But, except for a change, I find *Ferns* are not in such demand for dinner-table decoration as fine showy foliage and flowering plants.

The above is by no means an exhaustive selection of table plants for the winter, but I have found all of them exceedingly useful, and those who possess them will have no difficulty

in finding a suitable plant for the table during the winter months.—J. M.

### NOTES ON ANNUALS.

For the last ten years I have devoted a great amount of attention to the growing of hardy and half-hardy annuals, generally sowing above one hundred kinds every year, principally as a test to prove which are the best and really worth growing, also to find out for what purposes the various sorts are best adapted; and it may be useful to readers of the Journal if I give my experience and name those kinds which invariably prove satisfactory.

As my method of treating half-hardy annuals is somewhat different from the instructions generally given, I will mention a few points I have found necessary to attend to. I select a perfectly open site, and do not sow until the end of April, and then only the hardiest sorts, deferring the sowing of those which are more tender from the 1st to the 10th of May. By sowing thus late the seedlings come up quickly, invariably escape the late spring frosts and biting east winds, and become strong healthy plants producing abundance of flowers, which last longer in bloom than the same kinds reared under glass and transplanted in the open ground. Another important point is the sowing. Many of the seeds are very small and are often covered too deep and never come up. I cover them very slightly with fine sifted soil, watering the beds thoroughly before sowing the seed, and never allow the plants to become crowded. If too thick I find the greater part will bear transplanting by choosing a dull or showery day. I append a list of the best annuals:—

*Half-hardy.*—French Aster, German Ten-week Stock, Phlox Drummondii, Zinnia elegans, double and single; Zinnia Haageana, double yellow; Mexican Zinnias, single deep orange; Tagetes pumila; Dianthus Heddewigii; Petunia Jacobæa, crimson, purple, and white; Sanvitalia procumbens, double; Mari-golds, French and African, and brown and yellow ditto; and Salpiglossis, various, very beautiful.

The first twelve are well adapted for bedding; the fifth, sixth, and seventh are good substitutes for the Calceolaria; and on poor soil the first, second, third, fourth, and ninth are very effective in ribbon borders, while the greater part of them are good for cut flowers.

*Hardy.*—Scabious in variety, dwarf and tall; Larkspur, dwarf Hyacinth-flowered, and tall mixed double varieties; Linum, scarlet, Viscaria oculata, Saponaria calabrica, Eschscholtzia aurantiaca, Iberis hesperidifolia, Erysimum arkan-sanum, Godetia Lindleyana, double; Tom Thumb Nasturtiums, scarlet, and yellow; King Theodore, dark crimson; King of Tom Thumbs, brilliant crimson scarlet; Crystal Palace Gem, yellow and maroon; Whitlavia grandiflora and W. gloxinoides; Lupinus Menziesi, tricolor, hybridus, atrosanguineus, and nanus.

*For Scent.*—Mignonette and Mathiola bicornis, very fragrant in the evening; Sweet Peas, mixed; Helianthus californicus and H. globosus fistulosus. The two last are fine for the shrubbery.

[Some portion of the writer's notes are apparently missing, and he will oblige by supplying them.—Eds.]

### CHAPTERS ON INSECTS FOR GARDENERS.

No. 12.

A CERTAIN amount of wonderment has been expressed that, when the enormous number of exotic plants now cultivated in England is considered, the proportion of species of insects introduced with these is found to be so small. Even from those species which are generally reputed to be of foreign parentage a deduction must be made, for species which in all probability were really British, but kept themselves comparatively out of view until we took to cultivating largely some plant or shrub they prefer. Now, undoubtedly the fauna as well as the flora of a country like ours is capable of undergoing change; but in the majority of cases the naturalisation of a new species wants an amount of care and caution which no one scarcely would take with an insect; in fact all our efforts are put forth in the opposite direction. Then as to accidental introductions, it must be borne in mind that a great many of our new plants came to England in the seed state and as tubers or bulbs, when they would be less likely to be infested with insects than in a state of growth; or they have travelled here as small cuttings and slips, when they would naturally

receive an amount of attentive watching, probably fatal to an unwelcome visitant of the insect family. Moreover, our change-ful and humid English winters and our cold springs are "as good as poison" to insects accustomed to the more equable climes, whence come some of our favourites of the garden or conservatory.

It would appear that it is in the group of scale insects that we have had most intrusive foreign pests, and this is to be accounted for from the habits of many of the Coccidæ, where the female clings closely to the branch or twig, her dried body forming a shield beneath which the young insects are nurtured just at the period when they would be otherwise in much danger of destruction from external causes; also by some gardeners these germs of insect life are apt to be overlooked until they have reached a period of their development when they are less easily dealt with. And in our stoves or forcing houses various species find they are quite as much at home as in the lands to which they more properly belong, having, if left alone, just those circumstances favourable to their increase. In short, if the Aphides may be deemed on the whole the most troublesome enemies the gardener has to contend with, the Coccidæ may be reckoned the most insidious.

Before entering on a description of the Monomera, the last subdivision of the bugs or Homoptera, under which are comprehended the two prolific species popularly called mealy bugs or "scales," it should be noted that the American blight stands in an intermediate place between the true aphides and the Coccidæ. This and species similar were once designated Pseudococcidæ, as they have not the apparatus which drops honeydew, and in their cottony envelopment they resemble the family of the Coccidæ, though in other particulars of their habits they approach the Aphides. In the winter they do not generally die off as do the Aphides —(and just at this moment we have arrived at the season which Francis Walker calls the time of Aphis-fall, when, accompanying the dropping

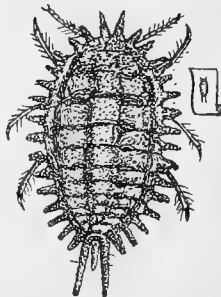


Fig. 61.—Scale.

leaves, myriads upon myriads of these descend to the earth and die, leaving batches of eggs for the next spring)—but they either creep down towards the roots of the trees and hide partially under the soil, or they seek out crannies in the bark and there repose during the winter, covering themselves with their cottony down; and from this peculiar protection, evidently serving to keep them warm, as well as probably a means of warding off the attacks of some parasitic foes, Newman infers with show of reason that this woolly Aphis bearing the modern name of Lachnus (Aphis) lanigera came from a warmer region to us. Newman was the first to experiment with regard to the best modes of dealing with this wholesale destroyer of Apple trees, his conclusion being that there was nothing to surpass hot size, only the applications of it must be repeated from day to day. In the fruit-producing districts of Kent, near my residence, whitewash seems largely patronised as a preventive and remedy, and is used both for Apple and Pear trees, though the value of this application will not compare with that of good size. Waterton's plan was to stifle the insects by means of clay, and others have devised compounds of tar and strong-smelling oils, which may kill partially. But it is admitted that in large orchards little can be done, and people have to resort to the destruction of all infected branches or trees to check the spreading of this blight—a blight indeed, yet can no proof be adduced that it ought to be called American; and at our antipodes, where the colonists are much troubled with it, they might as justly style it the English blight, and declare that it was imported from these islands, as is possible. But if it did come from America we have taken our revenge by transmitting to them Coccus conchiformis, which, though comparatively harmless to our Apples, has proved a serious infliction across the water, only it is partly checked in its increase by a species of Acarus that preys upon it.—J. R. S. C.

### BATTERSEA PARK.

THIS noted park occupies 200 acres. It was purchased in 1851 by the Government for £11,000, and covers the space once occupied by the inn so celebrated for shooting matches,

and known as the Red House. It is famous for its sub-tropical garden, and occupies the foremost position in this style of gardening. There are several acres arranged to present a natural and picturesque effect. The whole is well shaded, and surrounded by groves of trees and handsome evergreen and flowering shrubs for the purpose of shelter. No one was better acquainted with their natural positions than Mr. John Gibson, who laid out this park, for he has seen most of the trees growing in their native country in far distant lands. The Palms, Tree Ferns, Bananas, Aralias, Dracænas, and other richly coloured leaves of plants growing out of the green turf, with hundreds of other subtropical rarities, brilliant in colour, graceful, and elegant in habit or leafage produce a charming effect. There are abundance of flowers of the most brilliant kinds, but everywhere relieved and set off by the green leaves of a diversified character. Another feature in the park is the

very beautiful in the autumn and winter months for general decorative purposes, and we have them in various colours, with larger trusses of bloom, ample foliage, and fringed flowers, yet the beauty of the singles is confined to the plant, while every pip of the doubles is available for cutting. Double Primulas have been grown for a long time, but propagated only from cuttings, which is a slow process, and one not conducive of vigour to the plants. Of late years, however, double varieties have been offered as coming true from seed. The seedlings were poor at first, but there is really now little to be wished for except in variety, and in this respect every year is bringing us additions.

The doubles are with me so much admired, and come so truly from seed, that I shall grow them extensively. I have from seed a grand lot of double white, double red (the old colour of *fimbriata rubra*), and also bright crimson (the colour



Fig. 62.—BATTERSEA PARK.

rockwork—a good imitation of nature, and vegetation is spreading well over the rugged parts. At the base are planted trailing and creeping plants, such as Sedums, Sempervivums, Saxifrages, Thymes, and other herbaceous and alpine plants too numerous to mention, the whole forming one of the gayest sights of the season.

There is also another class of plants extensively cultivated there—the ornamental Grasses, and which have a very decorative effect. The ornamental waters also form highly pleasing scenery. The Grasses are planted in and at the edge of the water, fringing the projecting parts with graceful drooping leaves and erect and noble inflorescence. *Arundo donax*, both green and variegated, is stately and graceful, being a vigorous and robust plant with long, broad, and recurved leaves. The variegated variety has broad silvery-striped leaves, as has the striped Japanese Maize (*Zea japonica*), which is free-growing and very ornamental, attaining the height of 6 feet. There are many others when planted in such situations that are exceedingly attractive, such as the *Erianthus ravenna* and the Pampas Grass. The details of this Park have been frequently noticed, and the ability of the Superintendent, Mr. Rogers, is generally admitted.—N. COLE, *Kensington Gardens*.

#### DOUBLE PRIMULAS FROM SEED.

THE double flowers are very much more valuable than the single from their greater endurance. The singles are, indeed,

of *kermesina splendens*), and a very fine double carmine, large and free. They are quite free in growth and flowering. The colour of the last is charming by candlelight, and its ample foliage and large trusses render it available for a dinner-table plant.—A.

#### JUDGING VEGETABLES.

I HAVE had excellent opportunities of seeing collections adjudicated upon, and have taken much interest in the decisions, and have also taken pains both in growing and exhibiting vegetables, yet I fail to see the force of Mr. Fairweather's argument—that Potatoes should stand first in order of merit simply because they are a staple article of food. The encouragement that the Potato has received at the Alexandra Palace does not in the slightest degree enhance its value when placed in a mixed collection of vegetables. The same number of dishes of Peas, Tomatoes, or even Vegetable Marrows were they collected in the same manner would be interesting, but their value would remain the same as before.

Were I asked what vegetable should be placed first in order of merit my reply would be, That variety which required most skill to produce it in perfection at a given time, and to possess such merit as to be most esteemed by employers at that time.

The value of different kinds of vegetables necessarily varies with the season. Had I to form a collection of twelve varieties during the month of June I should certainly try and include



good examples of Tomatoes and Vegetable Marrows, believing both would be appreciated by all judges; Peas I should place next, which should not be conspicuous for being old; Potatoes a good even sample not over-large, preferring white to red tubers; Cauliflowers white, close, and of moderate size. I have noticed more variations in judging Cauliflowers than any other vegetable, some judges giving preference to a small close Cauliflower, while others would appear to think that a Cauliflower cannot be too large so long as it is close and white. French Beans not in any way old, but of a fair size, indicating a quick and healthy growth; Globe Artichokes, Broad Beans, Cabbages of moderate size, young, close, and firm; Carrots of the Early Horn or intermediate section, smooth, straight, and of good colour; and Turnips medium in size, young, and quickly grown. Thus I have enumerated ten out of the twelve varieties required, all of which can be produced at the above-named season. The eleventh and twelfth may be chosen from Onions, Mushrooms, Asparagus (a good dish of which has great weight, but in some localities it would be going out of season, and consequently small). Lettuces and Cucumbers are auxiliaries. And in judging Cucumbers as a vegetable I contend that a large Cucumber, provided it is not yellow, ought to stand before a small and partly-developed fruit, for a Cucumber used as a vegetable is very different to a Cucumber used for a salad. The one is cooked in various ways; sometimes the seeds are scooped out and the fruit is cut in lengths, stuffed with forced meat, stewed and served in thick brown gravy, and the Cucumber is therefore required to be of fair size; whereas to be cut in slices and served with oil or vinegar it is imperative that the fruit should be young and not seedy, and ought to be judged accordingly. I have seen very good Celery also shown in June which in a collection should also carry some weight.

As leading to success it is very important that the schedule be made clear as to what is required of an exhibitor, and every stipulation should be plainly defined, for the judges have to be entirely guided by what is printed in the schedule. The schedule stating what is required, every exhibitor should aim at neatness and uniformity in arranging their respective collections, for taste in the arrangement of vegetables is quite as necessary as with any other exhibits. All roots, in my opinion, should be washed, and if dishes or plates are to be had the roots can be set up to advantage; and a collection of vegetables tastefully arranged is as attractive as anything else in the show. I have also seen vegetables attractively arranged in trays or in round baskets, and every article set off to the best advantage.

Now, as to the mode of judging the products staged. First see that the requisite number are set up, and then weigh over the merits of every dish in the collection by counting the number of points which it merits, taking three for the maximum and one as the minimum number of points. When this is carefully done I cannot think there can be much room for complaint.

Although at most exhibitions there will be found someone who feels himself aggrieved, all exhibitors should bear in mind that though their products may in their own eyes be perfection they may not be thought so highly of by a stranger.

In judging both amateurs' and cottagers' produce a disposition should be shown to give additional prizes to any vegetables of real merit, as such recognition often stimulates the exhibitors to further efforts, and brings about the desired effect for which cottagers' shows were originated.—A YOUNG HORTUS.

I AM not disposed to agree with Mr. Fairweather that Peas, Cauliflower, and Potatoes are to be put upon the same level with Cucumbers, Tomatoes, and Vegetable Marrows; the latter trio must in my opinion have the first place as the choicest varieties. Peas, Potatoes, and Cauliflowers—admitting their excellence—are common enough with every cottager, and in many cases are far better grown in cottage gardens than in gentlemen's gardens; but it is not the value or importance of either trio on a gentleman's table that we have to deal with, but the relative value the one bears to the other when placed in a collection for competition and judged by a practical man.

We all know the value of the Potato as a standard vegetable, and admit its great importance as an article of food and commerce, but he would be a bold man who could excuse himself to his employer for not growing Vegetable Marrows, Tomatoes, and Cucumbers because Peas, Potatoes, and Cauliflowers were of more value and importance on his table.

I was not aware until so informed by Mr. Fairweather that

there was any prevailing fashion in judging vegetables, but I well know that some judges hold very strange opinions, and make absurd awards in collections of vegetables; for instance, some three years since at one of the shows held annually in Scotland, one prize collection contained Red Cabbage, another Drumhead Cabbage and Savoy, and the third Savoy; while other collections containing superior examples of Cauliflower, Celery, &c., were overlooked. What says Mr. Fairweather to these decisions? Does he "or any other man" consider such things in season on the 1st of September?

Now for the cure. Let me suggest, as I have often done before, that in all collections of vegetables the varieties should be named in the schedule. This would prevent any difference of opinion with the judges, and their task would be an easy one, for quality must or should win. Exhibitors would then be able to form an opinion of the abilities of those appointed to decide upon the respective merits of their products.

One more suggestion—and that is, Let all judges use the knife freely. Where any doubt exists let them not decide in haste, because some collections are so well polished and otherwise prepared to gain the highest honours and most money. If, as it is customary to cut Melons to test their quality, and to taste Grapes and other fruits for flavour and ripeness, I maintain that it is as necessary and important to cut vegetables to arrive at a satisfactory decision.—CLEVELAND.

### OUR BORDER FLOWERS—VERATRUMS.

If we may credit dates the Veratrums found their way to our shores in 1596, we might have thought that they would be seen everywhere, but experience proves the contrary to be the fact. We may sometimes see a solitary plant, when it is regarded almost as a curiosity. Perhaps old Gerarde and others of his times were better acquainted with them than we are in these days of artistic gardening. The Veratrums are but a small family widely distributed.

They are a family of plants of sterling merit, and one cannot but regret that they are so generally neglected. They are not over-particular as to soil and situation, but the better they are treated the more beautiful they become. They may be made very effective in many ways and in many places both in and out of doors. They are excellent for vases on terrace walks, and are well adapted for exhibition; their splendid foliage and charming habit are conspicuous and attractive. They are well adapted for open spaces in the shrubbery. If well planted in deep and well-drained soil, composed of loam and vegetable matter, they will take care of themselves for a very long time. I know a place where some of them are planted out on a grassy slope and have taken care of themselves for more than twenty years, and they are greatly admired in late summer and autumn. They are increased by division in the spring when they are commencing their growth, or by seed sown as soon as ripe. The seed is a long time before it germinates, and should be kept in a cold pit or frame and protected from severe frost.

*Veratrum nigrum* is the species most commonly met with. *Veratrum album* is the plant that affords us the Hellebore powder that helps us to rid ourselves of the Gooseberry caterpillars. *V. viride* is a very desirable plant and ought to be in all gardens, for if not bright in colour there is something pleasing in its green flowers. When *V. nigrum* and *V. album* are contrasted together a very pleasing effect is produced. These plants if brought into more general cultivation would rival some of those subtropical subjects of which we hear so much, for the bold ribbed leaves of the Veratrums could not fail to place them in a high position among the beautiful-foliaged plants which are engaging attention at the present day.—VERITAS.

### NOTES ON VILLA AND SUBURBAN GARDENING.

FLOWER GARDEN.—After an unusually long and mild autumn frosts have at length arrived and destroyed all tender plants. *Heliotropes*, *Salvias*, *Dahlias*, *Alternantheras*, *Cannas*, and many others are killed to the ground, and flower gardens have now quite a shabby appearance. Those who grow spring-flowering plants should now clear the beds, dig and dress them, and have the spring flowers planted without delay. A few of the summer bedding plants, however, are not injured, and these may remain for some time longer. Such plants as *Sedum aureum variegatum*, *Golden Feather*, *Mesembryanthemums*, *Lencophyton Brownii*, and some others still look fresh and cheerful, and are among the best of our late bedding plants. Golden Chickweed has lost its

colour for the past two months, and is not to be depended upon as a general decorative bedding plant. Like the Golden Thyme it is in some districts green over half the year, and is not suitable for the purpose for which it was intended. We have some large scarlet Geraniums trained to a wall every summer, and they flower so satisfactorily that they are to be recommended especially for the purpose. These have all been taken up carefully and with as much ball as possible, and taken to a light open shed placed on the floor and surrounded with dry leaf soil. Here they remain till the spring, but they lose every leaf during winter; but they are induced to do so gradually by being sprinkled overhead every day or two, and the leaves as they die are kept cleared off. In the spring, just as they begin to break their buds and make a little root in the soil, the plants are put into such sized pots as will just accommodate their roots; the plants are then staked, and are ready for transferring to a more suitable place. This is not a glass house, however, but a temporary erection of thatched hurdles, high enough to shelter the plants, yet not so high as to shade them from the sun. The tops of the hurdles are not thatched, but a covering of mats are put over the plants every night. The front hurdle is moveable, so that the plants can be reached for any purpose. This mode of keeping such Geraniums may be as useful to some others as it is to me.

**TAKING-UP DAHLIAS.**—These have been cut down to within a foot or so of the ground, and if the roots are covered with fern or any other litter they will keep alive all the winter. I do not advise that mode of keeping them, especially for choice sorts, for I find that they break very weakly in the spring, and if they flower a little earlier it is at a time when flowers are plentiful and when Dahlias are not required. The safest plan is to take up the roots and pack them in dry soil or sand in a place where frost cannot reach them. Great care should be taken that the tubers are not bruised, and they ought to be moderately dry before storing away, and afterwards not allowed to have much moisture. I usually plant them out again in April after the soil has been manured and trenched. *Salvia patens* I treat in a similar way during winter and spring only, and to prevent the tubers shrivelling they are stored in rather moist soil.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

WE have often called attention to the necessity of pruning fruit trees during the summer and autumn months, especially those subjected to training, but we also find time to prune the standard Apple and Pear trees. At the same time it is necessary to look over all the trees at this season or during winter as time can be spared. Some gardeners do but little to their fruit trees during summer, and depend almost entirely upon the winter season for pruning. It will be best to take advantage of all this fine weather for pruning and nailing the wall fruit, for during frosty or wet cold weather other work that will not be so trying to the constitution may be proceeded with. We prune all the hardiest trees first, such as Apples, Pears, Plums, and Cherries, reserving Apricots, Peaches, and Nectarines until the last. A not uncommon mistake in pruning and training wall trees is to lay-in the wood too closely; but it is not enough to thin it now. This ought to have been done during the growing season, so that the wood and fruit buds would be fully exposed to the light, and air would be freely admitted to the trees. It is a sign of unskilful culture when the older wall trees become bare along the main branches. The young wood must be trained in such a manner that these are hidden as much as possible by it; and this skilful manipulation of the young wood will cause the trees to be regularly furnished with fruit all over the wall, instead of only bearing at the ends of the younger branches. The lower portion of the wall is also very often bare of healthy fruit-bearing wood; especially is this to be noticed on Peach and Nectarine trees, and always worst on those trees that have not made much healthy young wood. The only plan is to bring the main branches down nearer the surface of the ground. There is always plenty of wood to fill up the centre of the trees.

**Out-of-door Grape Vines** may now be pruned and trained. In the neighbourhood of London Black Hamburgh Grapes ripen well on walls in fine seasons, and the Royal Muscadine may invariably be depended upon to produce a crop. The Black Cluster is also well adapted for wall culture in the open air. We have seen excellent crops of Grapes on walls not more than 5 feet in height, forming the division lines between small villa gardens. The best method of training is to conduct a shoot right and left from the main stem in a horizontal direction along the base of the wall about a foot from the surface of the ground, and from these horizontal rods train upright growths about 2 feet apart. These ought to be renewed every second or third year. This method of training is not often pursued, but it is the best, not only for obtaining a good supply of fruit of the best quality, but also for the appearance of the walls. Old

scrubby canes never produce large bunches, and such varieties as Royal Muscadine and White Sweetwater fail to produce any bunches when the wood becomes old and the spurs are closely cut in.

Fruit borders may be dug after the leaves have fallen and the trees have been looked over to remove any wood not required for next season. See that all planting is done as soon as possible according to previous directions.

### PINE HOUSES.

The work required in this department varies but little from week to week at this season of the year. The temperature of the house where fruit is ripening is maintained by night at 65°. Houses where the plants are at rest are kept 10° lower; very little water is required at the roots of the plants, and no water should be kept in the steam troughs. When the days are fine with a good deal of sunshine and the nights frosty the air becomes dry, and moisture may then be supplied by damping the paths and walls of the house early in the forenoon. All other work is the same as that detailed in previous weeks.

**Orange Trees in Pots.**—Some of the Oranges have begun to change colour, others are not more than half the size they will yet attain, and are quite green. A temperature of 65° is necessary for them, and the leaves as well as the branches must be kept clean by handwashing with soapy water. Orange trees require generous treatment in order to produce full-sized fruit of good flavour. In addition to the substantial turfy loam in which the trees are potted they require to be surface-dressed with guano or blood manure when the pots have become filled with roots, but such concentrated stimulants require to be mixed with an equal proportion of loam and pounded charcoal, and a handful of this applied to the surface of the pots occasionally causes the leaves, if they were of a pale green previously, to become of a dark glossy green. The Tangerine is the earliest, and we have had fruit of this variety in November and December of the best possible flavour, and twice as large as the best foreign specimens sold in Covent Garden Market. St. Michael's and Maltese Blood have given us good fruit as late as April. The fruit hangs a long time after it is ready to gather, but it loses flavour when over-ripe.

### CUCUMBER HOUSE.

We put the plants out this autumn in a much less quantity of compost than usual, and we find they succeed best when there is not a large body of soil. When visiting at Hardwicke Hall last winter I was particularly struck with the small quantity of soil Mr. Fish used both for Melons and Cucumbers. The soil was, I believe, not more than a few inches in depth and laid on a slate platform, which also served the purpose of a stage for plants during the winter season. We train the shoots a few inches nearer the glass in winter, but the trellis is made moveable, and can be raised or lowered at pleasure. Cucumber plants ought to be grown in a rather moist atmosphere, and the temperature ought not to fall below 65° at night, and as much air should be admitted by day as possible. Unless the leaves are thick and firm in texture good Cucumbers will not be produced, nor will the plants continue long in good health. Red spider must be kept from the leaves by syringing them thoroughly on fine mornings. The water must be applied with considerable force, but the work must not be done by inexperienced hands, else the leaves, which are very fragile, might be torn into shreds by the force of the water. On the first appearance of mildew dust the affected parts with dry sulphur. Thrips do much damage and are very difficult to destroy, but nothing is more effectual than fumigating with tobacco smoke.

### GREENHOUSE AND CONSERVATORY.

These structures are now gay with Chrysanthemums of sorts, and these will continue producing flowers until after Christmas. More than any other class of florists' flowers the Chrysanthemum contains varieties that bloom very early and others very late, and each class contains such flowers that open at different stages. Take, for instance, the Chinese or large-flowering section. One of the earliest to open is the beautiful clear yellow Gloria Mundi, the bright crimson Dr. Sharp, followed by the pure white incurved Mrs. G. Rundle and the primrose and golden sports from it. Empress of India, white; Guernsey Nugget, primrose; Jardin des Plantes, golden; Queen of England, and sports from it, are all among the early flowers. Those to open about three weeks later than the earliest of the above are Lady Slade, Princess of Wales, Princess of Teck, Venus, Pink Perfection, Lady Hardinge, and Isabella Bott. In the Pompon section we have the same results. Some of the earliest are Cedo Nulli and its golden, lilac, and brown varieties. James Forsyth and White Travenna are early, followed by Andromeda, Mrs. Dix, Golden Aurore, Mdle. Martha, very large pure white; Bob, Brilliant, and Antonius. There are also large-flowered Anemones and Anemone Pompons which contain very fine flowers. The best large-flowered are Louis Bonamy, lilac; Fleur de Marie, pure white; Lady Margaret, white; Gluck, yellow; Empress, large lilac; Mrs. Pethers, rosy lilac; King of Anemones, the most perfect-formed flower. Anemone Pompons are Madame Montels; Miss Nightingale, blush; Antonius,

best yellow; Firefly, scarlet; *Astrea*, lilac; and Jean Hinchette, late white. Japanese sorts are now well known to be very fine and distinct decorative plants. The earliest and best flower is Elaine, pure white, the petals stained at the back with red. James Salter is a fine flower, opening about the same time. These are succeeded by Fair Maid of Guernsey, Apollo, Garnet, Prince Satsuma, Jane Salter, Red Dragon, Hero of Magdala, Dr. Masters, Erecta Superba, and Magnum Bonum. Every flower named in the above list might be grown in a select collection.

Perpetual-flowering Carnations are now coming into flower, and our couple of dozens of plants will furnish blooms all through the winter months. The flowers are near the glass in a cool greenhouse. Some of the ordinary florist type of Carnations promised to run to flower a few weeks ago, and were also removed to the greenhouse. We have not cut blooms from this section at Christmas; but Mr. G. Budd of Undercliffe, Bradford, an ardent amateur cultivator, told us that he cut a bunch of very fine blooms at that festive season last year from plants placed in his greenhouse. Cyclamens are also making very fine healthy growth in the greenhouse. We have put the plants near the glass, and are very careful in watering them not to wet the centre of the mass of leaves and flower buds.

*Primula sinensis* in all the varieties requires a shelf near the glass, and the plants like a higher temperature than is desirable for most other greenhouse plants. We find them damp off at the neck if they are at a great distance from the glass and in a low temperature. On the first appearance of decay at the collar of the plants we dust the affected parts with dry lime. It is no use trying to grow the double-flowered varieties unless the plants are close to the glass and in a dry airy house.

Attention has frequently been directed to mildew on New Holland and other hardwooded plants. Particular attention must be devoted to them at this season, and on the first appearance of the parasite dust the affected parts with dry sulphur. All plants must be kept perfectly free from insect pests. Fumigating with tobacco smoke as a preventive is highly necessary at this season. Red spider can generally be removed, from small plants at least, with a sponge and soapy water.—J. DOUGLAS.

### TRADE CATALOGUES RECEIVED.

Simon-Louis Brothers, à Plantières, near Metz.—*Catalogue of Fruit and Ornamental Trees.*

Vilmorin-Andrieux et Cie, 4, Quai de la Messagerie, Paris.—*Catalogue of Bulbous-rooted Plants.*

Jean Nuytens Verschaffelt, No. 134, Faubourg de Bruxelles, Ghent, Belgium.—*General Plant Catalogue.*

### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

SOUTH BERMONDSEY (Chrysanthemums). November 15th and 14th. Mr. D. Jewiss, Rosedale Arms, Rosebury Street, Bermondsey, Sec.

NORTHAMPTON (Chrysanthemums). November 14th and 15th. Mr. W. Gutteridge, 51, Denmark Road, Northampton, Sec.

WIMBLEDON (Chrysanthemums). November 15th and 16th. Mr. P. Appleby, 5, Linden Cottages, Hon. Sec.

BRIXTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Goldfinch, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

BIRMINGHAM. November 22nd and 23rd. Mr. J. Hughes, Monument Place, Parker Street, Edgbaston, Sec.

ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (J. Stuckey).—Brown's "Forester" and Sutton's "Permanent Pastures." The last you can have from Messrs. Sutton, nurserymen, Reading.

ADDRESS (J. W.).—Write to Mr. Boothby, Louth, Lincolnshire.

ROSE CULTURE (E. B.).—"The Garden Manual," free by post if twenty postage stamps are enclosed.

CHARGE FOR JOURNAL OF HORTICULTURE (Sammy).—For three months 3s. 9d., and for six months 7s. 6d.

JUDGING VEGETABLES.—We must decline inserting any more communications on the subject.

RASPBERRIES (*Ohard*).—The three red varieties we recommend to you are Prince of Wales and Eastloft for heavy soil, and Red Antwerp for light soil. The culture is given fully in our "Fruit Manual," which you can have free by post if you enclose five postage stamps.

DRAIN PIPE CHOKED (H. T.).—It is not a weed, but the roots of some tree or plant that find an entrance through the joints of the pipe.

BLETIA TANKERVILLIE (R. S. P.).—It is a native of China, and a portrait of it is plate 1924 of the "Botanical Magazine." It is a stove Orchid, and requires no special culture.

PRIMULAS "BLIND" (*An Amateur*).—We have never noticed such a thing as Primulas showing fine trusses of flowers which prove blind. Probably you have not allowed time for the expansion of the flowers. Send us a specimen.

RAISING CARNATIONS FROM SEED (J. S. Webb).—The seed of Carnations may be sown in March in a pot or pan well drained, and filled to within half an inch of the rim with a compost of turfy loam three parts and one part of leaf soil, making the surface smooth, sifting a portion of the soil for that purpose and for covering the seed. Scatter the seed evenly and rather thinly, and cover with fine soil about an eighth of an inch deep. Place in a gentle hotbed, and water so as to keep the soil moist. When the plants appear keep them near the glass and admit air freely. When the second leaves have formed the plants may be removed to a cold frame, and after being well hardened off be planted out in moderately rich soil in an open situation in rows a foot apart, and that distance from plant to plant. If room be a consideration the seedlings may be pricked off in rows 6 inches apart and 3 inches asunder, replanting them at the distances above named in September for blooming.

RAISING PYRETHRUMS FROM SEED (*Idem*).—Sow in pots or pans early in March in light moderately rich soil, just covering the seed with fine soil, placing the pans in gentle heat. The plants will appear in a few days, and should be kept near the glass and well aired. When two or three leaves besides the seed leaves are produced prick the plants off in pans or boxes about an inch apart, placing them in a frame, keeping rather close and shaded for a few days, then admitting air freely. By bedding-out time they will be good plants.

WINTERING GERANIUMS (*Lady Subscriber*).—Provided frost be excluded from the granary the plants will winter safely. We should not give water except to keep the stems and shoots from shrivelling, and if the pots were surrounded with hay or plunged in cocoa refuse, and the tops in severe weather covered with dry straw, it is likely you would keep the plants safely, and yet all depends upon keeping dry and excluding frost. The plants will need to be watered as they begin growing in spring.

RETARDING CAULIFLOWERS (W. S.).—The best plan would be to place the heads with a goodly amount of leaves in a basket or box upon the ice in an ice house, covering them with straw; but as you may not have an ice house, the only other plan we know is to cut the Cauliflowers with all the leaves attached and hang them in a shed, cellar, or other cool moist place. If placed when wanted place in water for a time until the heads recover their freshness.

PLANTING ROSES (*Would-be Rosarian*).—You could not have better distances than 4 feet for the rows, with the plants 2 feet apart, for growing Roses for cutting; but old plants will be of little use for affording exhibition blooms. Change them at least biennially. Manetti stocks to bud next season may be in rows 2 feet apart, and 9 inches apart in the rows, and the seedling Briars the same distance. Every other row to be removed after growing a year from the bud, and every two plants, leaving the third one in every other row for permanent growth. Manetti cuttings may be put in in rows a foot apart and 6 inches asunder, omitting every fifth row for facility of weeding. Leave the Roses in rows 4 feet apart and 2 feet in the rows, as they are for at least another season, and if too thick take out every other, planting in their place two or three stocks of Manetti, which after growing a year from the bud may be disposed of. The other plants will give you blooms available for cutting for many years. The Manetti budded this year will require to make a year's growth before they can be disposed of, and should remain where they are.

VINES IN GREENHOUSE (J. S. S.).—We see no reason why Vines should not succeed in your house. Ferns do remarkably well under the shade of Vines. Wires would be required for the roof, and these ought to be strained tightly, not less than a foot from the glass; 15 inches is a better distance. The plant sent is a *Kalosanthes*. There are about a dozen varieties in cultivation. It is a greenhouse plant, and should be potted in sandy loam with a little leaf soil added. It likes a sunny position, and should not receive much water during the winter months.

CULTURE OF CARNATIONS (*Idem*).—To produce the finest blooms of Carnations and Picotees the plants ought to be grown in pots; but some of the more vigorous sorts succeed well out of doors; they do not require protection during winter. You ought to have layered the grass in August, and potted-off the young plants about the last week in September or early in October.

TOP-DRESSING VINE BORDERS (G. Smithers).—Your treatment so far is right, and seems to have been successful. Add one barrowload of decayed manure and a peck of crushed bones to eight barrowloads of your turfy loam.

SOLANUM CAPSICASTRUM (*Idem*).—You should place the plants now in a sunny position near the glass, and the night temperature should be about 55°. The lifting of the plants from the open border and potting them would have a tendency to cause the blooms to fall off without setting. They might not have dropped had you lifted them two or three weeks earlier.

DAHLIA FLOWERS SINGLE (*Novice*).—This is a not unfrequent occurrence, and we have seen it happen with the best cultivators. You must not propagate from such plants, or you will perpetuate a class of single flowers. It leaves a blank in the bed or border to remove the plants when the single blooms are observed. If they are allowed to remain until the end of the season the roots must then be destroyed. You can do nothing to prevent a few plants going wrong annually. We are not aware that single flowers have been more common than usual this year.

LOMBARDY POPLAR IN FLOWER BORDER (W. Stephenson).—The Roses and flowering plants may not as yet be much injured by the Poplars, but their heads and roots will injure them in a short time, therefore we advise the removal of the trees at once, taking them up by the roots. It is likely, however, that the trees may be of far more importance as a screen than the flowers, in which case you will, of course, sacrifice the flowers for the trees, but as to that you must determine.

VARIOUS (A. T.).—We cannot identify from a leaf, send us a flower. We publish "The Stove Manual." The worm is probably one of the wireworms.

Lime water is made with a peck of lime to forty gallons of water. It will not kill wireworms, nor would gas lime, nor would paraffin unless applied in quantities that would kill the plants also. Stirring the soil and picking-out the vermin is the only mode of conquering them.

**PLACING FLAGSTONES UNDER FRUIT TREES** (*St. Brigit*).—There is nothing gained by this practice. When the roots reach the outer edge of the stones they will work downwards.

**BEST TWELVE DARK CRIMSON ROSES** (*Idem*).—Abbé Brametel, Baron Chaurand, Black Prince, Charles Lefebvre, Duke of Edinburgh, Ferdinand de Lesseps, Firebrand, Fisher Holmes, Horace Vernet, Louis Van Houtte, Pierre Notting, and Prince Camille de Rohan.

**CELERY IMPERFECT** (*C. R.*).—If you sow the seed early and grow the plants well they will form good hearts. We suspect that your Celery is small and imperfect.

**INSECTS** (*J. W.*).—The caterpillar which on being handled has raised lumps between the fingers is the hairy larva of the Fox Moth (*Gastropacha rubi*). Several other similar caterpillars have the same injurious property.—*L. O. W.*

**NAMES OF FRUITS** (*A Novice*).—We cannot name your Grape from such a specimen. (*J. W.*).—1, Baronne de Mello; 2, Figue d'Alençon; 3, Comte de Flandres; 4, Hayshe's Prince of Wales; 5, Doyenné du Comice; 6, Triomphe de Jodoigne.

**NAMES OF PLANTS** (*J. H.*).—*Lunaria biennis*, Honesty. (*W. Denman*).—We cannot identify plants without seeing their flowers.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### LES BASSES-COURS D'ANGLETERRE.

#### CHAPTER X.—STOKE PARK, IPSWICH.

IN our twenty-second volume, on pages 225 and 264, we find an account of the above yards with two illustrations. The account of them there is so graphic, and the hints, many of them, so valuable, that we are quite unable to improve upon them. Still our chapters on the poultry yards of England would never be complete unless we had a few lines about so famous an establishment as that at Stoke Park.

Since we were last there the yards have been greatly extended, and many new sheds and houses built, and really the new buildings are splendid for the purpose, being large and well built, looking as capable of housing a flock of cattle as a flock of fowls. The breeds which Lady Gwydyr now exhibits are Cochins of all colours and Dark and Light Brahmas. Mr. F. Wragg, who is still managing this large establishment with as much success as ever, seems peculiarly at home with the Asiatics. In the illustration of the egg-room, which is to be found on page 264 in the twenty-second volume, we find labels with Black and other coloured Hamburgs, Ducks, Silkies, &c., upon them, but we saw none of these breeds upon the premises in October last. We much regret that the breeding of Silkies has been discontinued, for Lady Gwydyr had for many years been a successful exhibitor of this quaint little breed. In other respects the arrangements seemed identical with the former description. One thing is peculiarly observable at Stoke Park—namely, the perfect cleanliness and order of everything. One might imagine that with so many houses, so many runs, and so much to look after, some things would be neglected; but it is not so, and cleanly raked yards, well-filled dust baths, and pure water are to be found in every compartment.

When we paid our last visit the stock birds and adults were, from the season, naturally much out of feather, but the immense size and wonderful healthiness of all the specimens was very conspicuous. Among the adults one Partridge cock especially took our attention. He was in good feather and simply gigantic. Perhaps he was a little too dark for some judges' taste, but no one could but observe his beautiful symmetry and wonderful size. An adult Dark Brahma cock or two we thought very highly of, for they were just such birds as we should like to breed from. Others there were quite as good, but a little too full in hocks for our taste; but the number was so great, and many had such diversity of feathering, that the most fastidious could but select one to his liking. As we passed from pen to pen and yard to yard we could but again and again notice the great cleanliness, and consequently were not surprised to find no birds in the hospital or on the sick list.

The manager has bred an immense number of chickens this year, and a very fine lot many of them are. They seemed quite unnumerable, and flocked about in the fields and under the shade of the hedges and cover in perfect troops. Of them all we thought the Black Cochins and Buff pullets were the most superior, though we saw a Dark Brahma cockerel or two of great promise. The new runs which have been made are not so much wired-in enclosures, but are good-sized sheds erected in corners of the park, where the inmates can have perfect liberty and go in for shelter from the heat or rain at pleasure. We can well believe chickens from this yard turn out good stock birds, for in their youth while growing they have perfect liberty over an unlimited range of grass land and a constant supply of wholesome food always at hand. Honestly fed and honestly grown do these chickens appear to be without the use of spices and condiments and other ingenious compounds. We noticed in most of the

chicken runs long wooden troughs filled with well-mixed soft food, so that the birds could always have a supply by them. With birds enjoying such unrestricted liberty this may doubtless answer, but we would not recommend those with but limited space to try it, or the birds would probably get dainty and lose their appetites.

The Buff pullets were in the shrubbery run just above the great shed used as a chicken nursery. There were about forty of them, and we doubt if we ever saw a more beautiful sight connected with poultry as this flock of birds exhibited. Perfect in colour, neat in heads, well-fluffed and leg-feathered, large, grandly shaped and symmetrical, each one seemed the counterpart of the other; and whether Lady Gwydyr exhibits them herself or disposes of them to her numerous applicants, we venture to feel sure that they will make their mark at the top of many good prize lists. The old hens were in such a deep state of moult that we could not criticise them, and we can only say here, as we did there, they must have the quality somewhere about them, as their offspring show it. We did not think so much of the Buff cockerels, though one or two were very promising; but they were, we were told, own brothers to the pullets we have described. We hope separate pens for breeding cockerels and pullets are not going to be made requisite in this breed. Certainly the cockerels were then very raw and unfurnished, and may have by now become more worthy of accompanying their handsome sisters. The Partridge and White Cochins seemed later; but we remarked one or two White cockerels of much promise, and we shall welcome their arrival in the show pens, for they are badly wanted this year. The Blacks had splendid bloom, their plumage was like Mr. Serjeantson's Black Hamburgs for metallic lustre, and we can full well believe the wide grass runs under the large trees help to keep them in such fine condition.

This, then, is a brief outline of what we found at Stoke Park in October, 1876. As we said, we have not attempted to describe the runs and yards, for it has been well done only five years ago. We have consequently but tried to describe faintly a few of the treasures which we found under Mr. Wragg's protection upon this occasion. We would recommend all to go and see this great establishment when in the vicinity, for they will be amply repaid for any trouble, and will find the manager ready to show them his stock and turn them into Brahma or Cochins fanciers.—*W.*

### KEEPING POULTRY.

If they are confined to house and run they must be supplied with every requisite inside the enclosure. A box of broken oyster shells must be always acceptable. I have often noticed fowls, when confined during the forepart of the day and let out towards evening, run first for the broken shells lying on the road, and afterwards for green and other dainties.

A box of fine gravel to each run is required as well as oyster shells. It helps to grind up the shell for lime to make eggshell, besides helps to digest the food. No fowl remains long in health without it, as its digestion would not be in its natural working order.

Another thing, the dust box must be always at hand and dry, or parasites will always overrun any house and fowls that are not thoroughly cleansed. Many a fancier calms his conscience on this matter by not making a good use of his eyes, there being a greater number of these pests than most people have any idea of, and a wide field awaits the patient observer to discover and bring them out. The several varieties differ very much in habit and appearance. Some live on the feathers, others on the body, others on chicks' heads, while some keep in the perches, nests, and woodwork of the house.

When confined, their food must be more varied than that of fowls running at large. Ground beef scraps are very good, they contain many small patches of bone. They will keep through the hottest weather, if they are kept dry. Poultry are very fond of this kind of food, and I prefer it to pork scraps. When this is not furnished, give them some ground bone at times, or what is better, hang up a small hopper on the wall, a little distance from the floor, that they may take what they like.

Always keep on hand sulphur, disinfectant powder, or carbolate of lime, and such things as will be likely to be used at any time, so that when occasion requires, or you have a little time to spare, you may not have to wait for them.

The test that calls for the use of disinfectants, more ventilation, or cleansing, is to go into the house any night after it is closed up, and if you observe an offensive odour you may depend that something more is requisite to keep the fowls in healthy condition. It is good to fumigate once or twice a month during winter. Now and then dust a little carbolate of lime about the walls and floor of the house while the birds are penned in it.

In wet weather see that your fowls do not get too much drenched. If a cold rain continues till night, do not let the birds roost on the trees that night (if they are in the habit of doing so), but drive them into the house, even if it be at the expense of getting a little wet yourself.



Most fowls know enough to go in themselves; but there is, and always will be, of fowls (as of other two-legged creatures), some so simple as not to know how to take care of themselves.—(*Rural New Yorker.*)

### CAN A POULTRY FARM PAY?—No. 2.

In my former article (page 293) I gave my reasons why I thought a poultry farm should pay in Great Britain. In the present sketch I purpose explaining how my friend and self intend managing our poultry farm.

1st, We are seeking for thirty acres of land at a moderate rental to commence operations. We have two good markets easy of access, besides a good chance of local sales.

2nd, We intend to take up both branches—viz., egg-producing and meat-producing, our breeding stock consisting of two hundred hens, all hardy good layers and good table birds, supplemented by fifty sitting hens, divided as under—sixty Houdans, sixty Brahmas, eighty Redcaps (and fifty Cochins are the best of mothers). All these are good layers—the Cochins are the best of mothers and sitters, the Houdans are nearly equal to Dorkings, and the Brahma cross with Houdans give fine birds for table. The Redcaps, again (not generally known), are considered in Yorkshire among the best layers, as well as plump good table birds, very hardy, and easily reared.

3rd, The system to be adopted is in the main the Bellair (French) one—namely, houses 16 feet by 15 feet, only instead of putting 330 hens into one house (which we shall do in the case of our young birds waiting for market), in our two producing-houses we shall put one hundred hens a-piece, divided as follows:—House 1, Twenty Brahma hens, twenty Houdans, and sixty Redcaps, with Brahma cocks. House 2, Twenty Redcap hens, forty Houdans, and forty Brahmas, with Houdan cocks. The fifty Cochins (mated when required with Houdans), will be kept in a spare shed, their duty being hatching young broods; still at other times they could be doing ordinary duty.

In this department, the hatching, the Brahmas could do good service also, leaving the egg-laying chiefly to the Houdans and Redcaps. It will be seen from this that we shall save complication of breeds and general arrangements, requiring only two large runs besides the breeding one for young chickens.

Next to a cottage opening from the kitchen is the breeding house, arranged much as the Bellair one, 16 feet by 15 feet. Houses 1, 2, stock houses, and same size. House 4 same size, with a supplementary house No. 5, 14 feet by 15, for young stock waiting for market. The supplementary house could hold 250 birds; say 580 in the two. On the other side of the yard will be a second breeding house, a house for Geese, one for Ducks, each as above, 15 by 16 feet, and a larger spare house 24 feet by 15; to this must be added store-room and packing room, each 16 feet by 15.

Between the chickens and the Waterfowl is a courtyard 45 feet by 28, open, if required, to both departments. The whole area, exclusive of cottage and store-rooms, is 60 feet square. We purpose keeping twenty Ducks—viz., ten Rouen and ten Aylesbury, as well as six Geese (Toulouse). Such, then, is our proposed stock, buildings, arrangements, and general plan of work; now for some of the minutiae.

First, I would call your attention to a proposed improvement of my own in the arrangement of nests, &c., in the fowl houses. According to the Bellair system the nests are placed in tiers one above another at each end of the houses, with roosting perches covering the centre area. According to my plan all the nests are on the ground, with board and perches as recommended by *The Canada Farmer*. These nests go all round the several houses; but as this would not give sufficient nests I multiply two double rows up the centre of each house, with boards and perches all the same height from the ground. These centre rows of nests are portable.

We do not expect to do all this producing power at once; we may begin with a half or a quarter of the stock as may hereafter be determined on. Again, we do not intend to keep our young stock on hand longer than to fit them for the market. We hope to arrange to send to the markets weekly or fortnightly all birds fit for table, and so to keep down the stock, thus having about five hundred birds fitting for market, a sufficient supply of young chicks in the breeding ground, and the breeding stock as above enumerated, thus having at most a thousand birds at one time throughout the year. In our estimates in the appendix a larger number is allowed for in calculating supply of food, &c. By the arrangement of our two producing-houses that while we get the double cross of Houdans and Brahmas, we have in each Brahma hens mated with Brahma cocks, and Houdan hens with Houdan cocks, so that the several breeds can with care and attention be kept pure, and enable us for some few years to renew the stock of pure-bred ones of each class.

In the house-arrangement and accommodation simplicity and economy have been duly cared for; the same may be said of the outside arrangement. We only require three divisions of runs—viz., one for breeding young chicks, one for the Houdan

cross, and one for the Brahma cross. The outside bounds of these runs to be constantly changed to suit rotation of crops; in fact, the several flocks, if I may so call them, would have to be regularly herded out and in from their houses to their runs, thus giving extent and change.

Twelve acres out of the thirty round the yard are to be used for the poultry and their runs, leaving eighteen acres for cultivation. We could thus be nearly self-supporting, producing the crops required for our use—namely, barley and oats for our grain crop and straw; cabbages, lettuces—green crop; potatoes, turnips—root crop; and grass for hay and pasturage, giving a proper succession in rotation of crops in batches of six acres, roots and green crop forming one batch.

Finally, seeing what a limited amount of space and accommodation under this system is really required, and that every small holding we might take would necessarily have some sort of outbuildings and sheds, the building capital required need not be over £200, as elegant workmanship in shed-building is not required.

In time, of course, as the breeds become too much crossed we should have to erect a few pens for rearing an annual supply of pure-bred birds to work with. As good eggs and good table birds can only be had by breeding from good stocks, our aim must be ever to keep good breeds to work upon. All further information in the appendix.—G. R. HARRIOTT, *Killmore.*

### APPENDIX I.

#### ESTIMATE OF EGGS OF 250 HENS.

80 Redcaps	} in all 200 hens at 150 each per annum..	30,000 eggs.
60 Houdans		
60 Brahmas		
50 Cochins, sitting hens, allowed 100 each per annum..		5,000
		35,000
Allow 4000 eggs for breeding from	} 4000 eggs for household purposes, two families	8,000
„ 4000 eggs for household purposes, two families		
		27,000
Deduct losses, 1000.....		1,000
		26,000 eggs for market

20 Ducks at 70 eggs each per annum, 1,400. These all to be bred from.

### PROFIT ACCOUNT.

	£	s.	d.
Say, then, 26,000 eggs at average 1d. each.....	108	6	8
8,500 chickens at 1s. each.....	175	0	0
88 cartloads of manure at 20s. per cart..	38	0	0
1,000 Ducks at 2s. each.....	100	0	0
50 Geese at 5s. each.....	12	10	0
Add profit on spring chicks and ducklings	17	10	0
For own use, two families—			
4000 eggs at 1d. each.....	16	13	4
500 chickens at 1s. each.....	25	0	0
8 Geese at 5s. each.....	2	0	0
100 Ducks at 2s. each.....	10	0	0
	53	13	4
	£500	0	0

### EXPENDITURE.

	£	s.	d.
268 hens and cocks at 3s. per annum (food).....	40	4	0
Man and wife to take charge, between them.....	60	0	0
Rent of 30 acres at 30s. each per annum.....	45	0	0
Taxes, &c.....	7	10	0
Interest on capital, say £200 at 5 per cent.....	10	0	0
Fuel, &c., for servants.....	13	10	0
Keep of, say on an average, 1000 chickens at 3s. each per an.	150	0	0
	£325	4	0

Add to the above the produce of eggs from stock hens, also the value of stock hens and cocks at say 2s. each for 268 = £26 16s.; also 25 Ducks and drakes at 2s. 6d. and 7 Geese at 5s. = £4 17s. 6d.; = £31 13s. 6d.

It remains to be seen whether there may not be extra refuse to feed pigs, also surplus crops off the eighteen acres under cultivation to send to market, such as hay and corn. Many of these supposed items may not turn out facts, but I think enough has been shown to infer that there is fair ground to expect that with due care and supervision there should be a fair profit.—G. R. H.

CRYSTAL PALACE POULTRY SHOW.—We understand the entries amount to nearly four thousand. A slight diminution has taken place in the Dark Brahma entries, the Lights are as large as ever, the Dorking classes are also very good. Pigeons show an increase. To expedite the judging Mr. P. H. Jones's name has been added to the present advertised list. The dinner is arranged to take place on Tuesday, the first day of the Show, at five o'clock, and it is anticipated that it will assume the same leviathan proportions the Show has done. J. K. Fowler, Esq.,

of Aylesbury, will take the chair. Tickets and every information can be obtained of the Hon. Sec. We wish it every success.

### MY EXPERIENCE.

ONE rule will not apply to the feeding of all kinds of poultry, because what would produce eggs in the nervous active birds would produce fat in the Asiatics, rendering them useless.

It is this trying to care for all by one rule that has brought into saying, "The big birds eat the most and make the least return." It may be true that they will eat the most if they can get it, but actual experiment has proven to me that an Asiatic is profitable on less than would keep one of the smaller kinds in condition.

As to climate, observation and experiment have also proven to me that poultry in the southern States and California can bear different treatment from those having to endure the changes of season in the eastern and middle States. I think the feeding of corn during the heat of summer is one cause of the dreaded chicken cholera. Corn is heating and hard to digest. During the heated term the system of a bird is wholly relaxed—digestion is very slow. I think the corn produces a fermentation that poisons the blood. Nor is this thought alone—it is the result of careful study, comparison, and experiment.

In the extreme west and south, where, though warmer, the temperature is more equable, birds keep their tone, and corn could be given the year round, and prove neither healthy nor profitable.

My way of feeding my poultry is the result of much experimenting. My object has been to obtain the greatest amount of good for the least expenditure of time and money. In my poultry houses are two bins; one sufficiently large to hold the wheat for at least a winter's use. The other smaller, and used for a mixture of bran, middlings, coarse oatmeal, and, during the winter, corn meal. To this second bin I add one half ounce of best cayenne pepper to every 100 lbs. of meal.

I feed but twice a day, excepting when the birds are confined indoors by winter storms, then I add a noonday meal of cracked corn, whereas always at night I feed only with wheat, and that neither screenings nor damaged grain, but good clean wheat. On the back of the kitchen stove is always a kettle, which my wife calls the "stock-pot." It is washed out every day, and so keeps perfectly clean and sweet. It has a tightly-fitting cover of tin, made on purpose, with one-half which is raised with a hinge, so that it can be opened readily, yet the cover taken off easily, and still the aroma be prevented from passing off with the steam.

Into this kettle all the scrapings of the plates are put, also the potato parings and the waste of vegetables. Into it the water from the boiling potatoes and vegetables is drained. All the odd bits and bones that would otherwise be thrown to the dog, cat, or left to attract rats, find there a place. Leavings of milk, in fact everything eatable that would otherwise be thrown away goes there. If odd bits of meat and bone are not plentiful the order to the butcher includes a few cents' worth of waste meat or a sheep's pluck. As I said before, the kettle is on the stove all day, and after dinner, if it is not already full, boiling water is added to bring the contents within 2 inches of the top. Of course by night the "soup" is thoroughly cooked. When the fire is made in the morning the kettle is put over the blaze and its contents very soon are scalding hot. I then empty it upon a pan of the mixed meal I brought in the last thing at night, mix thoroughly, and take to my chickens, dogs, and cat for their breakfast.

I have certain places in each run where I feed in the morning, and once a week I make upon those places bonfires, into which I rake the bones that have accumulated through the week, adding a few oyster shells, thus removing the litter, and furnishing charcoal, calcareous matter, and ashes to my poultry. It is curious how little will be left of the ashes after the birds have rolled in and picked them over. As soon as I have emptied the kettle it is washed, and with a little water put in again is placed upon the stove, ready for the scraps that might come from the breakfast. To be sure this looks like a little trouble, but it is like everything else where there is system; working by rule, it all comes in right and easy.

A neighbour of mine was troubled very much by feather-eating fowls. He says he found his remedy in pounded borax, which he discovered by a mere accident. He had been pounding some borax in a wooden box, and leaving it for a few moments he found his Black Leghorns eating it greedily. Afterwards, seeing it did them no harm, he furnished it to them, and very soon after feather-eating ceased entirely. Query, what did the birds find in the borax that satisfied the craving that they had had before for the feathers or blood? You've noted a great many remedies in your paper for vermin, but I have not seen a mention of carbolic powder. I have used it and found it perfect as both disinfectant and vermin-exterminator. I merely dust it through the feathers of a bird, using a common flour dredge. With that so applied, with coal oil used freely over the roosts,

by burning out the nests of sitting hens after each hatching, by whitewashing twice in the twelve months, and making a smudge once, I have kept my premises perfectly free from vermin of all sorts.—E. STOWELL.—(*American Fanciers' Journal*.)

### DERBY SHOW OF POULTRY, &c.

THE ninth Show of the Derby Ornithological Society was held on the 4th and 6th inst. in the Rifle Drill Hall, which is without doubt one of the best places in the kingdom for such a purpose, the light being equal and good. The entries were good—650 in all, but several classes had been taken off, else they would have been much larger. Turner's pens were used, and well placed in single tier. Spratt's foods were used, and with an ample staff of Stewards and a Committee of real fanciers, who face real work with earnestness, the whole was well managed.

*Dorkings* were first, and a good class, while the *Cochins* were better. The first old Buffs, second a grand pen of Partridge chickens. In Dark *Brahmas* first was carried off with a famous hen and a cockerel, the rest being young birds. Lights not so good as Darks, chickens winning; the third cockerel rather cloudy on the wing, but a grand pair otherwise. *Game* were single birds. In Black Red cocks first was a chicken, a gem all through; second young also, but rather rakish; and third a substantial old bird, but not up in feather. Brown Red cocks not equal, but there were two very promising undubbed cockerels. Black Red hens, as a lot, were very rough, but the first pullet was an exquisite bird, second a large substantial hen, and third a pullet, which needs making-up a little. In Brown Red hens first and second were gems, and both of this year; the third an old bird. In the Variety class Piles won all the prizes; one Duckwing, very good in all other points, was crooked. Hens, Pile first and third, and Duckwing second. *Hamburghs* had but two classes. In Pencils first were very good Silver-pencils; the cockerel had a capital tail; the second Golden. One pen of Golden (Hallam) had by far the best pullet, but the cock was ill. In Spangles first and third were Golden, and second Silvers. The first a very good all-round pen, and in nice order. The Silvers were only priced at £2, and were sold. *Bantams*, Game Reds were poor if we except the two pens of Black and Brown Reds, first and second, and in the next only the first Duckwings were of any quality. In the Variety of Bantams first and third were Black, and second White Booted. In the Variety class first were a capital pair of Golden Polish, second and third Spanish.

In *Pigeons* Carriers were first on the list, a good all-round Black cock winning, his neighbour, perhaps a better bird, not yet in bloom, was a Black of splendid beak and wattle; second a Black cock, a little flat-wattled; and third a Dun hen. In Pouters *Messrs. Watkin's* White was again to the front. *Dragoons* were a large class; first perhaps the best Silver in the fancy, second a Blue, and third a Yellow; a better Yellow (Wood) was altogether down, and its feathers the wrong side up. In Antwerps were a mixed class; first a Red Chequer, second a Silver Dun, and third a Red Chequer, all Short-faces. Fantails a grand lot and showing well, and well placed as regards position for judging. In Turbitts all the prizes went to one lot; the second to a capital Black bought in the Selling class at Mansfield the previous day. Tumblers, first the Mansfield cup hen, and second the cock, as also the Red Whole-feather third. In the Variety class first was Mr. Yardley's Black Barb hen, second a capital Red Jacobin, and third a Pigmy. In the Selling class first was a grand Red Swallow, second a Black Carrier hen, and third an Almond.

**POULTRY.—DORKINGS.**—1, E. V. Snell. 2, *the*, F. Holbrook. 3, R. Johnson. **COCHINS.**—1, W. Smart. 2, Rev. R. Feilding. 3, R. P. Percival. **BRAHMAS.**—Dark.—1, F. Holbrook. 2, Rev. T. C. Peake. 3, R. P. Percival. Light.—1, R. P. Percival. 2, W. Thorn. 3, *the*, S. S. Vernon. **GAME.—Black Red.**—Cock.—1, R. A. Burton. 2, E. Winwood. 3, T. Spencer. Hen.—1, R. Johnson. 2, W. Kirby. 3, J. R. Pratt. **Brown Red.**—Cock.—1, B. Ashley. 2, A. Schofield. 3, E. Garnett. Hen.—1, E. Garnett. 2, B. Ashley. 3, J. Richardson. **the, A. Schofield. **Any other variety.**—Cock.—1, G. Barnesby. 2, B. Ashley. 3, G. Payne. Hen.—1, B. Ashley. 2, J. Oscroft. 3, Heath & Howlett. **HAMBURGH.**—Gold or Silver-pencilled.—1, Duke of Sutherland. 2, C. W. Gibbs. 3, E. V. Snell. Gold or Silver-spangled.—1, J. Long. 2, J. Widdowson. 3, Duke of Sutherland. **BANTAMS.**—Game, Black or Brown Red.—1, J. Oscroft. 2, S. Beighton. 3, T. Siddon. **Game, any other variety.**—1, S. Beighton. 2, F. S. Rockaday. 3, Rogers & Kerry. **Any other variety except Game.**—1, A. & W. H. Silvester. 2, F. Holbrook. 3, R. H. Ashton. **the, W. Cramp. **ANY OTHER VARIETY.**—1, A. & W. H. Silvester (Golden Polish). 2, S. W. Hallam. 3, J. Aldridge (Black Spanish). **SELLING CLASS.**—1, Rev. R. Feilding (Cochin). 2, R. Hall, jun. 3, H. E. Radford.****

**PIGEONS.—CARRIERS.**—1, H. Yardley. 2, W. H. A. Miller. 3, J. Brewer. **POUTERS.**—1, L. & W. Watkin. 2, J. Hawkins. 3, H. Yardley. **DRAGONS.**—1, R. Woods. 2 and 3, A. McKenzie. **the, W. Smith. A. McKenzie, R. Woods. **ANTWERPS.**—1 and 2, H. Yardley. **the, R. White. W. Payne. **FANTAILS.**—1, 2 and 3, S. Swift. **the, J. F. Loveridge. **TURBITTS.**—1, 2, and 3, R. Woods. 2, J. Gardner. **the, J. W. Lamplough. **TUMBLERS.**—1 and 2, H. Yardley. 3, M. Weston. **the, A. & W. H. Silvester. M. Weston (3). **ANY OTHER VARIETY.**—1, H. Yardley. 1 and 2, J. Gardner. 2, T. W. Swallow (Jacobin). 3, A. & W. H. Silvester. **the, R. Woods. H. Yardley. **SELLING CLASS.**—2, K. Woods. 3, A. & W. H. Silvester. **the, H. Yardley.**************

**BIRDS (Local Department).**—**BELGIANS.**—Clear or Ticked.—1, J. N. Harrison. 2, W. Woodward, sen. **Variagated.**—1, J. N. Harrison. **NORWICH.**—Clear Yellow.—1, C. J. Salt. 2, E. Orme. 3, W. Ashley. **the, John Bexson. Clear Buff.—1, C. J. Salt. 2, E. Orme. 3, H. Watson. **the, W. Ashley. **Unevenly-marked Yellow.**—1, C. J. Salt. 2, H. Watson. 3, E. Orme. **the, Joseph Bexson. **Unevenly-marked Buff.**—1, C. J. Salt. 2, W. Ashley. 3, John Bexson. **Evenly-marked Yellow.**—1, E. Orme. 2, John Bexson. 3, C. J. Salt. **the, W.********

Ashley. *Evenly-marked Buff*.—1, E. Orme. 2, W. Ashley. *Heavily-variegated Yellow*.—1, E. Orme. 2, W. Ashley. 3, Joseph Bexson. *vhc*, C. J. Salt. *Heavily-variegated Yellow*.—1, E. Orme. 2, H. Watson. 3, J. Bexson. *vhc*, C. J. Salt. *Jonque Green*.—1, J. Lewis. 2, H. Watson. 3, E. Orme. *Mealy Green*.—1, E. Orme. 2, W. Ashley. *Variegated Yellow Crested*.—1, H. Watson. 2, J. and C. Torr. 3, E. Orme. *vhc*, W. Ashley. *Variegated Buff Crested*.—1, J. N. Harrison. 2, E. Orme. 3, W. Woodward. *sen*. *vhc*, W. Ashley. *Yellow Crested*.—1, J. Clark. 2, J. C. Torr. 3, H. Watson. *vhc*, C. J. Salt. *Buff Crested*.—1, J. C. Torr. 2, E. Orme. 3, Joseph Bexson. *vhc*, J. N. Harrison. *Lizard*.—*Golden-spangled*.—1, W. Scanlan. 2, J. N. Harrison. *Silver-spangled*.—1, C. J. Salt. 2, W. Jackson. 3, J. N. Harrison. *Golden-spangled*. *Broken Cap*.—1, J. N. Harrison. 2, W. Woodward. *sen*. *Silver-spangled*. *Broken Cap*.—1, W. Jackson. 2, C. J. Salt. 3, J. N. Harrison. *vhc*, W. Scanlan. *Cinnamon-Jonque*. *Self*.—1, E. Orme. 2, C. J. Salt. 3, W. Ashley. *vhc*, H. Ball. *Mealy*. *Self*.—1, E. Orme. 2, C. J. Salt. 3, W. Jackson. *vhc*, W. Ashley. *Marked or Variegated*.—1, C. J. Salt. 2, Joseph Bexson. 3, H. Watson. *vhc*, W. Ashley. *ANY VARIETY OF CANARY*.—1, W. Ashley. 2, E. Orme. 3, C. J. Salt. *vhc*, J. N. Harrison. *GOLDFINCH MULE*.—*Jonque*. *Marked or Variegated*.—1, E. Hodgkinson. *Mealy*. *Marked or Variegated*.—1, E. Hodgkinson. 2, Joseph Bexson. 3, J. N. Harrison. *vhc*, W. Jackson. *Jonque*. *Dark*.—1, J. Bexson. 2, R. Hodgkinson. *Mealy*. *Dark*.—1, Joseph Bexson. 2, C. J. Salt. 3, John Bexson. *vhc*, H. Watson. *ANY OTHER VARIETY OF MULE*.—1, E. Hodgkinson.

**CAGE BIRDS** (All-England Department).—**NORWICH**.—*Clear Yellow*.—1, J. Ams. 2, D. Audley. 3, J. Athersuch. *vhc*, J. Athersuch. D. Audley. *Clear Buff*.—1 and 2, J. Athersuch. 3, D. Audley. *vhc*, C. J. Salt. *Evenly-marked or Variegated Yellow*.—1, Orme & Ashley. 2, C. J. Salt. *Evenly-marked or Variegated Yellow*.—1, Orme & Ashley. 2, C. J. Salt. 3, F. J. Knaggs. *Tickled or Unevenly-marked Yellow*.—1, C. J. Salt. 2 and 3, J. Athersuch. *vhc*, D. Audley (2). *Tickled or Unevenly-marked Buff*.—1, D. Audley. 2, J. Athersuch. 3, J. Adams. *vhc*, J. Adams (2). *J. Athersuch*. C. J. Salt. *Any variety Crested Yellow*.—1, T. C. Cleminson. 2, J. C. Torr. 3 and *vhc*, G. E. Russell. *Any variety Crested Buff*.—1, S. Stratford. 2, F. J. Knaggs. W. J. Hampton. J. & C. Torr. *Belton*. *Clear*. *Tickled or Variegated Yellow*.—1 and 2, C. J. Salt. 3, J. N. Harrison. *Clear*. *Tickled or Variegated Buff*.—1, J. N. Harrison. 2 and 3, C. J. Salt. *Lizard*.—*Golden-spangled*.—1, R. Ritchie. 2, C. Cleminson & Ellerton. 3, T. C. Cleminson. *Silver-spangled*.—1, R. Ritchie. 2, T. C. Cleminson. 3, W. J. Hampton. *vhc*, C. Cleminson & Ellerton. *Broken Gold or Silver-spangled*.—1 and 3, R. Ritchie. 2, C. J. Salt. *vhc*, C. Cleminson & Ellerton. *Cinnamon-Jonque*.—1, J. Adams. 2 and 3, C. J. Salt. *vhc*, J. Athersuch. *Mealy*.—1 and 2, D. Audley. *vhc*, C. J. Salt. *GOLDFINCH MULE*.—1 and 2, C. J. Salt. 3, W. Burniston. *vhc*, S. Ross. *Dark*.—1, 2 and 3, C. J. Salt. *vhc*, Cox & Griffin. W. Smith. *LINNET MULE*.—*Dark*.—1, W. C. Burniston. 2, C. H. Legge. 3, T. Bell. *SELLING CLASS*.—1, J. Athersuch. 2, J. Bexson. 3, J. Adams. *vhc*, Cox & Griffin. *GOLDFINCH*.—1, W. C. Burniston. 2, C. J. Salt. 3, E. & R. Ward. *vhc*, J. Hopkins. *LINNET*.—*Brown*.—1, J. Evans. 2, J. Clarke. 3, W. Mettin. *vhc*, E. & R. Ward. *ANY OTHER VARIETY OF BATHING BIRD*.—1 and 2, J. Lacey. 3, J. Bartlett. *PARROTS*, OR ANY OTHER VARIETY OF FOREIGN BIRD. *Single or in Pairs*.—1, J. A. Barrs. 2, Miss James. 3, T. Tomlinson.

**JUDGES**.—*Poultry and Pigeons*: Messrs. Hutton and Cwre. *Cage Birds*: Messrs. Blakston, Bemrose, and Lamplough.

### MANSFIELD SHOW OF POULTRY, &c.

The first Show was held at Mansfield in the Town Hall on the 3rd inst., and for a first attempt was a great success. The space being limited many entries were refused acceptance, and those accepted had to be placed three tiers high. Turner's pens were used, and the birds well fed with Spratt's food.

First came the *Dorkings*. The pullet in the first pen was a grand bird; all were Dark Grey except the third-prize cockerel, which was more of a Silver, but otherwise by far the best in the Show. *Game*, *Black Reds*, a good lot and well placed, as also the *Brown Reds*, the first of which we thought entitled to the cup in place of the *Duckwings*, which we thought too long-bodied. *Dark Brahmas* were good, chickens taking the prizes; while in the *Light variety* we saw nothing striking. *Buff Cochins* were very good; and in the following class *White*, *Partridge*, and *White* won the prizes. *Spanish* poor except the winners; the second, priced at only £2, were quickly claimed. *French* were a capital class. *Hamburghs* were good as far as we could make out, but these were very badly placed for light, as were also the variety of *Bantams*, in which the pen of *Duckwings* (put third at Southwell on account of the legs not matching) were placed first, the Judge declaring his inability to see the colour of the legs at all. *Red Game Bantams* were poor except the first-prize pen and one of *Brown Reds*.

*Pigeons* were much better placed as regards light, but many were placed too high to look well. First were *Carriers*, a capital Dun hen taking the lead, second a *Black cock*, and third a Dun hen, which, however, is rather stiff-winged. *Pouters*, first a grand *White cock*, in fine play; and second and third *Blacks*, also good, but not quite in full feather. *Tumblers*, first and cup for the best bird in several classes a capital *Almond hen*, second a cock, and third a *Red Whole-feather*. *Long-faced* were first a *Black Baldpate*, second a *Yellow Mottle*, and third a *Red Mottle*. In *Barbs* all the prizes went to one loft. *Dragoons* were but moderate classes, not so good in fact as we expected to find; in *Blues* the fault laying mostly in unsoundness of colour. In *Jacobins* the winners were very good and all *Reds*. This class has improved very much of late. *Fantails* were a wonderful class, but were placed sadly too high to be seen to advantage; the cup for the section being awarded to a very showy little hen, which, however, did not show to the same advantage on the following day when placed under the eye, and was consequently beaten with birds only highly commended the day before. *Turbits*, *Blue or Silver*, first a *Blue*, a very neat bird in all points, as also the second; the third being a *Silver*. Any other colour, first a *Black*, which ran hard for the cup, but has part half grown black feathers in the thighs; second a neat *Red hen*, and third a *Yellow*. *Owls*, *English*, an immense class, and two extra prizes awarded. In the *Variety* class first was a neat *White*

Owl, second and equal a *Pigmy Pouter* and *Swallow*, third and equal *Pigmy Pouter* and *Magpie*. Mr. Woods did not show for competition; but few pens were empty.

**POULTRY**.—**DORKINGS**.—1 and 3, Mrs. Arkwright. 2, J. Stott. *Game*.—*Black Reds*.—1, T. Wright. 2, E. Winwood. 3, J. Calladine. *Brown Reds*.—1, T. Mason. 2, G. Barnesby. 3, Earl of Loudoun. *Any other variety*.—1 and Cup, G. Henfrey. 2, T. D. Crowds. 3, W. Thorpe. *BAHMAS*.—*Dark*.—1, R. P. Percival. 2, G. Eastwood. 3, G. W. Henshall. *Light*.—1 and Cup, J. Widdowson. 2, R. P. Percival. 3, S. T. Vernon. *COCHINS*.—*Cinnamon or Buff*.—1 and 2, W. A. Burnell. 3, S. Sidgwick. *Any other colour*.—1, Rev. J. Buckmaster. 2, R. P. Percival. 3, W. A. Burnell. *vhc*, Dr. E. W. Snell. *SPANISH*.—1 and 3, J. Thresh. 2, J. Aldridge. *FRENCH*.—1 and 3, I. Ward. 2, Dr. E. W. Snell. *HAMBURGH*.—*Equal or Silver-spangled*.—1, H. Beldon. 2, R. E. W. Snell. 3, J. Smith. *Gold or Silver-spangled*.—1, A. L. L. L. Beldon. 3, J. Roberts. *BAKAMS*.—*Game*, *Black or Brown Reds*.—1, W. Adams. 2, J. Smith. 3, J. Osroff. *Game*.—*Any other variety*.—1, Shumack & Daff. 2, W. Roe, jun. 3, T. Barker. *Any variety except Game*.—1, H. Beldon. 2, M. Leno. 3, T. Dyson. *ANY OTHER VARIETY*.—1, A. & W. H. Silvester. 2, H. Beldon. 3, G. Bacon. *SELLING CLASS*.—1, J. Gunn. 2, S. T. Vernon. 3, C. Sidgwick. 4, E. J. Storer.

**PIGEONS**.—**CARRIERS**.—1, J. Kendall. 2, H. Yardley. 3, H. Parker. *vhc*, A. Billevald. *POUTERS*.—1, L. & W. Watkin. 2 and 3, E. A. Thornton. *vhc*, H. R. Tenney. *TUMBLERS*.—*Short-faced*.—1, Cup, and H. Yardley. 3, M. Weston. *vhc*, A. & W. H. Silvester. *Long-faced*.—1, H. Beldon. 2, H. O. Crane. 3, J. Thresh. *vhc*, J. Thresh. J. Barnes. *BARBS*.—1, 2, and 3, H. Yardley. *DRAGONS*.—*Blue or Silver*.—1, A. McKenzie. 2, W. Smith. 3, R. White. *vhc*, E. Clarke. C. Waddington. Hon. W. Sugden. A. McKenzie. *Any other colour*.—1, J. Stanley. 2 and 3, A. McKenzie. *JACOBINS*.—1, H. Beldon. 2, W. Dugdale. 3, T. W. Swallow. *vhc*, J. F. Loversidge. S. Salter. *FANTAILS*.—1, Cup, and 3, J. F. Loversidge. 2, F. S. Stephenson. *vhc*, M. Rameron. J. Walker. *TURBITS*.—*Blue or Silver*.—1, Master E. W. Tomkinson. 2 and 3, S. Salter. *Any other colour*.—1 and 3, S. Salter. 2, T. S. Stephenson. *vhc*, J. Barnes. *OWLS*.—*English*.—1, J. Thresh. *Equal*, 2, Helliwell & Ingram. J. W. Stansfield. *Equal*, E. W. Van Senden. H. Parker. *ANTWERPS*.—*Short-faced*.—1, J. Kendrick. Jun. 2 and 3, H. Yardley. *Long-faced*.—1 and 2, C. F. Herrieff. 3, J. Goddard. *ANY OTHER VARIETY*.—1, H. Beldon. *Equal*, 2, H. Yardley. O. J. Moulds. *Equal*, 3, A. & W. H. Silvester. O. J. Moulds. *vhc*, W. L. Clark. E. A. Thornton. **SELLING CLASSES**.—*Single Bird*.—1, A. P. Byford. 2, L. & W. Watkin. 3, H. Yardley. 4, T. S. Stephenson. *Pairs*.—1, T. H. & A. Stretch. 2, A. & W. H. Silvester. 3, S. Salter. 4, O. J. Moulds. *vhc*, O. Mason. H. Parker.

**JUDGES**.—*Poultry*: Mr. J. Dixon. *Pigeons*: Mr. E. Hutton.

### READING COLUMBARIAN SOCIETY'S SHOW.

THERE have been manifold discussions into which we have never entered as to the desirability of having special classes for amateurs alone at the great Pigeon shows. The amateurs seem settling the matter in the most quiet and practical manner by establishing columbarian societies all over the country, which hold shows and there exhibit their best specimens, and invite a public inspection of them. The Reading Columbarian Society has not been long established, but already it is a flourishing one, having for its specialité Homing Pigeons. Its annual Show was held on the 2nd inst. at the West Street Hall, Reading, where several hundred excellent birds were shown. They were shown singly and in pairs.

First came young birds of various kinds singly, then Homing Antwerps of many colours singly, and lastly pairs of various kinds of any age. *Carriers* (young) came first. The winners were all *Black*. First was fine in carriage and very long in beak; we thought his gullet excessive. Third a very nice bird too. *Dragoons*.—Two prizes only were awarded, both to nice *Blues*. *Turbits*.—The winners were all *Blue*. The first was a pretty good specimen, but we cannot commend the class. *African Owls* were excellent, all from one loft, and all *White*. After these came the large and well-filled classes of Homing Antwerps. The awards in these classes are, as it were, always provisional, for the birds' merits lie in their deeds and not their appearance; still there are some signs which indicate an active and a useful bird, and these seemed, as a rule, highly developed in the winners. The pairs followed the Homing birds. *Carriers*.—First *Blacks*, second *Duns*, third *Blacks*. The first and second belonged to the same exhibitor, and we must say we much preferred the second, as, we believe, does he; the third *Blacks* were also good. *Dragoons*.—We regretted to see two cocks in several pens in this class. We must say we did not agree with the awards in this class, but then Dragon-judging is so much a matter of taste. The winners were all *Blue*, and we thought the second-prize pair far too Carrier-like. Mr. Flanagan's very highly commended pair were apparently young, and, if so, very good. *African Owls*.—The pairs were as good as the single birds, first being lovely birds indeed. *Turbits*.—First were *Silvers*; the cock a good and well-known bird; his beak has an unfortunate look, as if it had partially been abstracted. Second fair *Blues*, third poor *Shell-crested Yellows*. *Selling Class*.—First were a fair pair of *Yellow Jacks*, second *Black Carriers*, and third *Black Magpies*. We give the prize list as far as we could make it out, but as there was no catalogue, and the awards were posted up a little irregularly as to the classes, we must beg pardon should there be any error in it.

**PIGEONS**.—**CARRIERS**.—*Single*.—1 and 2, G. Webster. 3, W. G. Flanagan. *DRAGONS*.—1 and 2, W. G. Flanagan. *TURBITS*.—1, 2, and 3, G. Webster. *OWLS*.—*African*.—1, 2, and 3, J. Farmer. *HOMING ANTWERPS*.—*Blue-chequer*.—*Cock*.—1, J. W. Barker. 2 and 3, G. Cotton. *Hens*.—1, Equal and 3, G. Cotton. 2, J. W. Barker. 3, G. Cotton. *Red-chequer*.—*Cock*.—1, W. Cross. 2 and 3, J. W. Barker. *Hens*.—1 and 2, J. W. Barker. *Blue*.—*Cocks*.—1, W. G. Flanagan. 2, J. W. Barker. 3, J. L. Hawkins. *Hens*.—1, J. W. Benham. 2, J. H. May. 3, J. W. Flanagan. *ANY OTHER VARIETY*.—1, G. Cotton. 2 and 3, J. H. May. **CARRIERS**.—*Pair*.—1 and 2, W. G. Flanagan. 3, G. Webster. *DRAGONS*.—1 and 3, W. G. Flanagan. 2, G. Webster. *TURBITS*.—1 and 2, G. Webster. 3, W. D. Strange. *OWLS*.—*African*.—1, J. Farmer. 2, G. Webster. **SELLING CLASS**.—1, F. B. Cable. 2, G. Webster. *HOMING ANTWERPS*.—*Blue*.—1, 2, and 3, J. W. Barker. *Red*.—1 and

2, J. W. Barker. 3, G. Cotton. *Blue-chequer*.—1, G. W. Flanagan. 2, J. W. Barker.

### MOVEABLE VERSUS FIXED COMBS.

MR. J. E. BRISCOE of Albrighton has lately given us an account of his success in bee-keeping with a Stewarton hive, and made some remarks on straw and bar-frame hives. His success has been very remarkable and gratifying, and I trust that the model he has held up to view will be copied if not excelled by other apiarists. It is encouraging to know that Mr. Briscoe has taken 144 lbs. of super honey from a Stewarton hive in 1876. The "RENFREWSHIRE BEE-KEEPER" has also been very successful this year with a hive of the same kind and managed on the same system of storifying. The total amount of super honey which he obtained was great and encouraging. I am thankful for the reports of their success, and hope that the readers of the *Journal* will be favoured with reports of future success equally stimulating.

In contrasting the straw hive with the bar-frame hive I fear Mr. Briscoe has suffered his enthusiasm to carry him a little beyond the line of fair dealing. He says—"Although all the scientific apiarists of Europe and America have adopted some modification of the bar or bar-frame hive, it has at length been discovered that a large straw skep with fixed combs, made doubly secure by transverse sticks, and the ultimate destruction of the bees by sulphur (which is in the majority of instances involved in this mode of management) to obtain their treasures, is the *ne plus ultra* of bee-keeping when large harvests of honey and wax are to be secured." It pains me exceedingly to quote this sentence, and I am sorry that Mr. Briscoe has written it, for the readers of the *JOURNAL OF HORTICULTURE*, if not all the advanced bee-keepers of Great Britain, know that the discovery (if it is a discovery) which he alludes to is about one hundred years old, and that I am neither an advocate nor a patron of sulphuring bees. Another enlightened apiarian, who well knows that I have done more perhaps than any other person in these realms to expose the folly of destroying bees by sulphur, has tried to connect my name and system with the brimstone pit. It is too late in the day for anybody to succeed in such attempts. The destruction or disuse of the sulphur pit is only a question of time, and I am sure if Mr. Briscoe and others will come to our aid in trying to stamp it out of existence they will do some real service to bee-keeping. Many misleading remarks about me and what is called my system I let pass without noticing them publicly, and it has been with considerable reluctance that I have now noticed Mr. Briscoe's remark, and I sincerely hope that it will not be necessary for me to do so again.

I now come to notice the argument of his letter and the comparison he makes. Is it a fact "that all the scientific apiarists of Europe and America have adopted some modification of the bar or bar-and-frame hive?" In a recent number of this *Journal* Mr. J. H. Eldridge of Norwich informs us that he "recently received a letter from an aged Swiss clergyman, M. de Gélien, a bee-keeper of great experience—sixty years, a son of the author of 'Le Conservateur des Abeilles.'" This Swiss clergyman, in answer to Mr. Eldridge's letter says—"The great question of the day in our Switzerland, as in France, Germany, and America, is that of mobilism or fixism—i.e., moveable or fixed combs. Mobilism has the incontestable advantage of offering facilities for theoretical experiment and the formation of artificial swarms; but is it superior or even equal to fixism with regard to the production of honey? I doubt it a little, because bees do not like to be disturbed in their labours, which always occurs more or less when moveable frames are used." If this Swiss gentleman is correct the bar-frame system is on its trial in Europe and America, and it is a question whether it be finally adopted or not. Meanwhile I should be glad if many who use straw hives would introduce the bar system for the sake of experiment, and give it a fair trial. Some of my friends have already done so, and now cling to the straw hive with greater confidence than ever.

In some few instances to my knowledge the Stewarton hive has yielded grand results, and I am not aware that I have ever written or spoken a word in condemnation of it. Some six years ago I suggested an enlargement of this hive, and this suggestion, which appeared in the pages of this *Journal*, gave great offence to a gentleman who sells the Stewarton hive. In 1864, if I remember rightly, the "RENFREWSHIRE BEE-KEEPER" favoured the readers of our *Journal* with an account of his success that season with a Stewarton. The late Mr. Woodbury sent the number containing this account to me. The results were so great that my faith staggered on reading them, but believing every word of the report of the Renfrew success, I set myself to the task of comparing it with results obtained in an adjoining county—namely, that of Lanark, in the same year. I remember I found it very difficult to decide which was the greater success. At Carlisle, in Lanarkshire, the late Mr. Reid obtained from a stock hive a gross weight of 328 lbs. in 1864. The old hive was 96 lbs.; first swarm, 160 lbs., and second swarm was 72 lbs. These, of course, were in straw hives. Since 1864 I

have been gathering the best results of the system and presenting them annually to the British public. In 1874 Mr. Geo. Campbell, in Aberdeenshire, had a gross return of 373 lbs. from a stock hive. All argumentation and advocacy in favour of this or that hive, or this or that system, will not go far without facts or results. It is well known that facts remain facts whatever may be said of them; and if I have been a successful advocate of the straw hive I owe my success to the facts of the system. Mr. Briscoe has told us what his Stewarton hive did in 1875, "the worst season known for twenty years." It gave about 30 lbs. of fine honey. Surely Mr. Briscoe has not forgotten that a straw hive gave Mr. George Fox a super of honeycomb 86 lbs. weight, which beat all comers at the Crystal Palace Exhibition of 1875.

Mr. Briscoe says that "Mr. Pettigrew justly observes that bar-frames can never help bees, but seems to have failed to discern that they do most materially help bee-masters." I have not failed in this matter, for I have often frankly and freely said that bar-frames are very useful in scientific research and for taking a bar of honeycomb now and then. Mr. Briscoe's admission that they cannot help bees covers the whole ground that I contend for, and I fancy that some of his school will not be quite satisfied with his admission. One thing Mr. Briscoe and others should bear in mind, that supers of honeycomb are not sought by all bee-farmers. Many of the best and most scientific bee-farmers keep bees for honey, not for honeycomb. In Glasgow, where most of the octagon boxes of comb from the Stewarton hives are sold, there is a demand for twenty times more run honey than there is for comb. If Mr. Briscoe lived in the neighbourhood of Glasgow, the best market in the world for run honey, would he condemn the hives and system that helps greatly to meet the demand? We have no demand for honeycomb in this neighbourhood to be compared to the demand for run honey. My run honey sells as fast as it is jarred up at 1s. 3d. per lb. There is a great deal to be said on both sides. I commend the consideration of the subject to the bee-keepers of Great Britain. It is an important question, and cannot well be too fully discussed; and I do not see why the question cannot be discussed calmly and fairly without the use of personalities and misrepresentations. Let us all do what we can to spread knowledge, and thus dispel darkness.—A. PETTIGREW.

### BEEES AND THEIR STORES.

This time last year we were all bewailing the unhappy condition of our hives, which, left to themselves, were more than usually populous and poverty-stricken. Now we are equally unfortunate in a contrary state of affairs—bees few and combs full of honey. Nothing could more thoroughly exemplify the advantage of frame hives over those with fixed combs. My own hives, from which I took all the honey two months ago, have now teeming populations and abundance of brood in all stages, and are well provisioned for the winter—the result of continuous feeding. Some straw skeps which I had an opportunity of examining a few days ago, and which had been left undisturbed, I found full of honey, few bees to consume it, and no brood. The cause was evident—the workers had brought home so much honey that little room was left in the hive for breeding; and as this has been the case ever since June or July, it follows that the population could not possibly be numerous, all the bees born prior to that time having been long since dead.

The prospect for the future is not encouraging, the survival of the stock till spring being mainly dependant on the number of young bees reared; and this again (food being abundant) at all times is ruled by the space of comb-surface which the congregated bees can keep warm. Conditions being favourable the queen will breed all the year round. I have noted brood in my hives during every one of the last twelve months. The prudent bee-master will do well to assist his stocks to attain the condition most favourable to increase, for without young blood the stocks must perish, as every bee now in the hives, except the queens, will, in the natural order of things, be dead before the flowers of May appear. Mr. Pettigrew, I know, disputes this, but any observant man who has worked with Ligurians cannot fail to have had positive proof of it by the total change of variety which invariably takes place on the substitution of an alien queen. I yesterday (November 1st) introduced in my apiary eight Ligurian queens to black stocks, and have not a shadow of a doubt that, provided the stock survives, by May every bee in the hives will be gay with the golden bands. The maxim that "unity is strength" is a very valuable one for bee-keepers. Two weak stocks now separate will surely die, united they will probably live and increase. Therefore I say, See to your stocks, and if necessary make what may seem a present sacrifice into a future benefit by uniting them.—JOHN HUNTER, *Eaton Rise, Ealing.*

On the 27th ult. at Abbot's Hill, Hemel Hempstead, on the invitation of the Rev. Herbert Peel (a nephew of the great statesman), at a harvest festival, Mr. John Hunter gave to the



tenants, labourers, and visitors a lecture on bee-keeping. The day being exceptionally fine, Mr. Hunter was enabled to illustrate his lecture by practical demonstrations of the methods of driving and transferring a stock of bees from a straw skep to a frame hive. The impunity with which the bees were handled greatly astonished a large audience of rustic bee-keepers.

### BARLEYSUGAR FOR BEES—POLLEN.

I WILL endeavour to answer the questions put to me by your correspondent "O. B.," taking them in the order in which he places them.

1st, "What kind of barleysugar did I administer?" I make my barleysugar thus—I put a wineglassful of water, half the same quantity of vinegar, and a pinch of salt into a stewpan, adding to this 3 lbs. of good loaf sugar (3½d. per lb.). Sometimes I make a greater quantity at the time, but these are the proportions. I place the pan over a bright fire, and keep its contents stirred for about fifteen minutes—that is, until all the sugar is melted, and boils well. I then draw it a little way from off the fire, and keep it gently simmering, and above all constantly stirred. Soon a crackling noise proceeds from the boiling. I then try a drop or two on a cold plate. If it becomes solid and brittle the sugar is sufficiently cooked. I pour the liquid into ordinary shallow tin dripping-pans, so that the cakes will be about half an inch thick. The liquid sets in a short time, and with a sharp rap at the bottom of the tin, or by banging it down bottom upwards on a board, the barleysugar is at once emptied out and broken into suitable pieces. I have always put it at once into air-tight vessels. Pickling bottles will do. If exposed to the air it will liquify.

2nd, "In what form and in what way is the barleysugar administered?" The pieces as broken by the method stated above I give to my bees by placing a piece of perforated zinc or small-meshed wire netting over the central hole above the hive, or in the quilt, and I use a flower-saucer, small biscuit-tin, finger-glass, or flower-pot to cover it, wrapping all up warmly again afterwards.

3rd, "What is the cost?" Made as above, 3½d. per lb. If bought, 9d. per lb.

4th, "With regard to artificial pollen, &c.?" This is simply pea flour bought from any grocer for 2d. per packet. The best way to administer it is by adopting Mr. Abbott's plan, which is to place some clean deal shavings in a skep and to scatter the contents of a packet over the shavings. To allure the bees at first to it, put a piece of recently burnt honeycomb in the skep. I have placed a sheet of glass over the skep, leaving slits at the side as entrances, and the skep has been placed in a sunny corner. Thousands of bees will enter this skep, coming out of it like millers white with the flour.

5th, "Can anyone say from experience if the same results could be produced by feeding, and omitting the pollen?" In former years I fed, but only used the artificial pollen this spring for the first time. Young bees were most numerous with me both early last season and this, but their numbers this year from individual hives far surpassed those of last year. I may or may not be right, but I attribute much to the good results arising from a supply of baby food being early and constantly carried home. This influx must excite the queen's egg-laying propensities as much as the sight of food for the adults.

6th, "Will not the ivy pollen now being collected supply the spring wants?" To this I can only answer, that just as a hive with many pounds of stored honey is still idle, and its queen unproductive far into the spring, incoming pollen retards the prosperity of the hive. How eagerly the bees seek out and collect every grain from the earliest flowers. As soon as there is at all an abundance of natural pollen the artificial flower is entirely disregarded. As many of my hives have been newly filled with combs taken from skeps, I have out those with plenty of pollen and equally distributed them, and my bees now amuse themselves on fine days by carrying off the pea flour from a skep under shelter of a large cart shed. The ivy has been in berry here for some time.

One other remark about syrup and barleysugar. I never employ syrup for late autumn or very early spring feeding. For early autumn in rapidly feeding-up weak stocks it is preferable to barleysugar, and, again, it can be given gently when warm spring weather has really commenced, but the superfluous water contained in it is injurious to the welfare of the hive in cold weather. Not only is barleysugar better for the bees, but it is also so much more easily given and cleaner to handle by the master.

Another of your correspondents asks for information concerning Lee's 12s. 6d. hive, and Abbott's 3s. 6d. hive. I have both. Two of the 3s. 6d. hives stood out all last winter, and each gave me over 60 lbs. of super honey this season. But—and the but must be attended to—I wrapped them up very warm, giving them an overcoat of straw-bottle covers, those sent out over wine bottles; these I tied together closely, and tacked them top and bottom to strips of laths. The laths were fastened to the top and bottom edges of the hives, thus leaving a space of air be-

tween the straw and wood. I put some quilts of old carpet over the frames, some dried grass above them, and a wooden roof covered with waterproof felt, and projecting well over hive, and floor-board over all.

I have not yet tried Lee's new 12s. 6d. hive. The roof must first be made waterproof, and similar jackets made for it as those given to Abbott's hives, and then I have not the least fear of placing it out of doors.—P. H. PHILLIPS, *Offley Lodge, near Hitchin.*

### OUR LETTER BOX.

OXFORD SHOW.—Mrs. Pasley, Fareham, informs us that her Silver-Grey Dorkings were "very highly commended," and her Gold Pheasants "highly commended."

EIGHT-TOED DORKINGS (S. W. J.).—Dorkings will sometimes come with four toes on each foot, but it is rare among well-selected stock. Silver-Greys are birds of plumage, and sometimes a chicken will be all that is desirable in shape and colour, but will be deficient in toes; nevertheless the defect is overlooked for the sake of other points. It is just the same in Sebright Bantams. Often the best laced bird will have a single comb. Every other point may be unusually good, and the owner dubs her (a wise thing to do), and puts her among his breeding stock. In the case of Dorking and Sebright the defects are sure to be transmitted, and will soon be seen as the birds emerge from chickenhood. But those that are faulty are not the only birds that suffer from defects. Many of those that are perfect have the "bad drop," and will every now and then prove that Nature always vindicates herself, and will not be contravened in her laws. Many people believe the Silver-Greys were made by crossing with Duckwinged Game. That would introduce the four-clawed foot. If your birds commonly come with four toes you have some bad blood to get rid of. Do it before another season and substitute better.

INSECTS IN CAGES (M. H., *Castleton*).—You have done quite right in washing the cage, but the insects you have forwarded are harmless to the birds. They vary very much in colour and form to the bug-shaped insects so worrying to cage birds, particularly to Canaries, nor are they the same kind of insects (although much resembling them in colour), which are found upon fowls. It is true you may find them among old books, and very often in the crevices and beneath the sliding bottoms of cages. Those you have forwarded will run about with considerable speed compared to the Canary red mites, which later are slow in their movements, and are at first white or grey, and become red or vermilion after they have sucked the blood of their victims.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
1876.	Barom-eter at 32° and Sea Level.	Hygrom-eter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem-perature.		Radiation Temperature.		Rain.		
		Dry.	Wet.			Max.	Min.	In sun.	On grass			
Nov.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
We. 1	30.291	37.9	35.0	N.	44.7	47.0	32.7	82.8	26.2	—		
Th. 2	30.344	37.8	36.2	N.W.	43.5	50.0	31.0	85.9	24.3	—		
Fri. 3	30.266	41.2	47.5	N.W.	43.5	51.4	35.3	58.3	32.3	0.189		
Sat. 4	30.263	50.0	43.2	N.W.	45.5	54.9	41.1	68.0	41.1	0.133		
Sun. 5	30.268	45.4	46.2	N.W.	47.2	55.3	40.4	66.1	45.0	—		
Mo. 6	30.220	51.6	49.2	N.	48.2	51.4	48.3	76.6	45.9	—		
Tu. 7	30.209	38.1	36.8	N.	46.0	46.4	34.7	34.6	31.2	—		
Means.	30.269	43.4	42.0		45.5	50.7	38.5	73.8	35.3	0.212		

### REMARKS.

1st.—Fair bright morning; beautiful day, but rather hazy at night.  
2nd.—Slight haze in morning, but soon clearing off to fine day, but again hazy at night.  
3rd.—Foggy and very cold at 8 A.M., clearing up soon after nine; but followed by a day neither sunny nor wet.  
4th.—Rain past night, followed by a rather dull day.  
5th.—Rain in early morning; damp and foggy till 10 A.M.; rather better after, but not a bright day at any time.  
6th.—Rain in past night; very fine morning; rather dull for a short time about 10 A.M., after then very fine; rather cooler at night.  
7th.—White frost, followed by a most beautiful day and splendid start of night.  
High barometer, north-westerly wind, and very fine weather. Sharp frost on the first two nights.—G. J. SIMONS.

### COVENT GARDEN MARKET.—NOVEMBER 8.

LARGE quantities of American Apples are still arriving, and have been sold during the past week at a great reduction upon former prices. Pears are realising high rates, the principal supplies reaching us from Jersey and Guernsey, and consisting of Chaumontells, Glou Morceau, and Beurre Diel. Kent Cobs are experiencing a steady fall.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	5	0	Nectarines.....	dozen	0	0	0
Apricots.....	dozen	0	0	0	Oranges.....	100	8	0	16
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	0	0	0
Currants.....	1 sieve	0	0	0	Pears, kitchen.....	dozen	1	0	3
Black.....	do.	0	0	0	dessert.....	dozen	2	0	9
Figs.....	dozen	0	0	0	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	6	1	Plums.....	1 sieve	0	0	0
Cobs.....	lb.	0	1	3	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	1	6	6	strawberries.....	lb.	0	0	0
Lemons.....	100 lbs	10	18	0	Walnuts.....	bushel	5	0	8
Melons.....	each	2	0	5	ditto.....	100	1	6	2

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	NOVEMBER 16—22, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
16	Th	Wimbledon Chrysanthemum Show closes.	48.9	33.2	41.0	7	23	4	7	8	17	3	41	0	14	59
17	F	Brixton Hill Chrysanthemum Show.	48.1	33.9	41.0	7	24	4	6	9	33	4	14	1	14	60
18	S		47.9	32.9	40.4	7	26	4	4	10	35	5	0	2	14	61
19	SUN	23 SUNDAY AFTER TRINITY.	45.9	33.5	41.2	7	28	4	3	11	25	5	58	3	14	62
20	M		48.7	34.6	41.7	7	30	4	2	0	a	2	7	4	14	63
21	Tu	Loughborough Chrysanthemum Show.	49.6	36.2	42.9	7	31	4	1	0	28	8	18	5	13	64
22	W		49.2	34.7	41.9	7	33	4	0	0	47	9	32	6	13	65

From observations taken near London during forty-three years, the average day temperature of the week is 48.8°; and its night temperature 34.1°.

## A GARDEN OF HARDY FLOWERS.—No. 1.

**I**GNORAMUS" asks for instructions how to plant his garden with flowers so as to insure "a maximum of pleasure with a minimum of future trouble." Gladly do we respond to his appeal, not only because there are many other owners of small gardens to whom such information would be useful, but also that by far too little attention is given to this matter in gardens of every kind, and yet what a mine of floral wealth have we to draw our supplies from! Surely it must be owing to ignorance that the great value and importance of hardy flowering shrubs and perennials have not hitherto obtained the general recognition which they so justly merit. Faulty arrangement has also some influence in this matter, for how often do we see borders of hardy flowers in which the plants are jumbled together without any attempt at effect whatever. Now, this is undoubtedly a mistake; formality may be objectionable, but we would certainly prefer the most angular and stiff design to a confused style totally devoid of expression or a single feature that is graceful or lovely. Let us, therefore, proceed to the consideration of certain familiar parts or features of gardens large and small, and see if we cannot do something towards the promotion of orderly yet graceful arrangements, free from stiffness and formality on the one hand, and confusion and slovenliness on the other.

A gently sloping bank—whatever may be its position, whether at the extremity of a lawn or beside a shrubby walk—affords facilities for a variety of arrangements, any of which will prove just so effective as they are suitable for the position and the size of the garden. In a small garden, where it is desirable to secure as much variety as possible, I would plant the bank with a mixture of dwarf flowering shrubs and perennials. The pink-flowered *Escallonia macrantha* will form a low shrubby tuft in such a situation, and will also spread its trailing growth over any jutting rocks or crags when such are present. *Cotoneaster microphylla* is equally effective in its way, with an abundant trailing growth closely set with stout deep green foliage and rich crimson berries. Then we have *Pernettya angustifolia*, very effective and picturesque, with pink-stemmed branches, deep green foliage, clusters of white Heath-like flowers, followed by a profusion of deep crimson berries. Like the other two shrubs, this shrub is an evergreen, but is not a trailer, the growth being compact, erect, and yet not formal. *Mahonia aquifolia*, allied to the Berberis, is another good dwarf evergreen with handsome glossy foliage, large compact clusters of rich yellow flowers in spring, with deep purple berries later in the year. It forms a large low-spreading shrub in good soil, and is very ornamental. *Berberis Wallichiana* and *B. dulcis* should also have a place here; the first forming very compact dwarf shrubs, and the last, which is of a comparatively loose growth, is an attractive object when bearing its pendant flowers and berries.

No. 616.—VOL. XXXI. NEW SERIES.

If peat could be had I would prepare special stations in what appeared to be the most suitable situations, say near the lower margin of the bank, and so be enabled to enrich it with tufts of the sweet-scented *Daphne Cneorum*; the *Andromeda catesbaei* and *floribunda*—quite the best two of this genus; the evergreen Chinese *Azalea amena*; the tall-growing shrub-like *Erica mediterranea*; the bright pink *Erica carnea*, so charming in early spring; the best of the Irish Heaths, *Menziesia polifolia*, which produces a mass of large purple bells throughout autumn and the early winter months; *Kalmia angustifolia*, with its charming varieties *rosea* and *rubra*, both of which I have in flower now (November 2nd); *Skimmia japonica*, with glossy evergreen foliage and bright scarlet berries; and the dwarf *Rhododendrons dauricum* and *ferrugineum*.

Flourishing in almost all kinds of soil and most suitable for the bank are the *Spirea callosa* and its white variety *callosa alba*, with *S. Thunbergii* and *S. arifolia*. The varieties of this charming family are very numerous and constitute an important section among flowering shrubs, but most of the others are somewhat too tall or spreading in habit to be useful here.

With these few but very choice shrubs we may intersperse a certain quantity of perennial flowers, taking especial care to select some for all seasons of the year. The Moutan *Paeonies* are most suitable for such a situation; they are attractive objects when in full beauty, but the brief duration of the flowers renders them undesirable for planting alone. Mingled with other shrubs as they would be here, they burst into beauty in early summer, meeting the eye like a pleasant surprise, which is all the more agreeable from the fact that the plants have not been offensively conspicuous while out of bloom. There are numerous good sorts, from which I select the following choice dozen:—*Cornelia*, *Athlete*, *Elizabeth*, *Lactea*, *Samarang*, *Confucius*, *Emilia*, *Rubra odorata plenissima*, *Morris*, *Osiris*, *Rienzi*, and *Madame Stuart Low*.

Pentstemons may also be introduced here advantageously; they are most desirable hardy flowers for beds and borders of most kinds, many of the newer sorts being especially fine. For a choice dozen we may take *Crimson Banner*, *Agnes Laing*, *Sceptre*, *W. E. Gumbleton*, *Cato*, *Delicatissimum*, *Monarch*, *Stanstead Rival*, *W. P. Laird*, *Syrian Mantle*, *Yeoman*, and *Striata*.

Of other flowers we may take *Dielytra spectabilis*, *Columbines*, *Chrysanthemums* to be selected from a list which will be given in another note, the old *Crown Imperial*, and the equally familiar old white *Lily* (*Lilium candidum*), with such *Campanulas* as *macrantha* and *pyramidalis*; the blue-flowered *Statice latifolia*; *Anemone japonica*, a most valuable late white flower, some plants of which I can see as I sit at my desk, having even now several unexpanded flowers which a few hours of genial sunshine would bring out; *Tritoma Uvaria* and its varieties *grandiflora* and *grandis*; *Lythrum roseum superbum*, and some of the *Michaelmas Daisies* (*Asters*), such as *A. elegans*, *versicolor*, *Novæ-belgii*, and *Novæ-Angliæ*. The two last sorts are especially striking with large pink and blue

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flowers. I planted a few of each of them last winter and they have proved very ornamental during the past autumn.

Thus much for the decoration of the bank; now a word as to the arrangement of the plants. Take care, in the first place, not to plant too many. Give each plant and shrub ample space to develop its full proportions, for much more pleasure is derivable from a few well-grown specimens than from a host of wretched starvelings. Place some of the tall-growing sorts near the top of the bank, and dot the others among the lower-growing kinds as taste or fancy may suggest. If space can be had for a few groups by all means let them be formed, for they will impart character and importance to what may otherwise appear somewhat trivial and insignificant. If the bank comes down to the margin of a walk we may fringe it with very many dwarf plants, such as Moneyworts, several of the Gentians, especially *G. acaulis*, Cowslips, and all the other hardy *Primula* tribe. A few *Lilies* of the Valley, too, may peer out among the foremost shrubs, with tufts of the lovely deep blue *Omphalodes verna*; while at other and more open spots Snowdrops, Crocuses, and other bulbous plants may all lend brightness and beauty in their respective seasons.

Let it be understood that here I have the adornment of small gardens especially in view. In large places such a mixed style of planting would not be followed, except for special purposes; we would rather clothe the bank with one class, or even one sort only, of some plant or shrub that is striking or agreeable in a large mass, such as we find in the *Gaultherias*, *Mahonia aquifolia*, *Cotoneaster microphylla*, *Osmunda regalis*, *Vinca major*, *St. John's-wort*, and the *Escallonias*.

If the mixed planting of the bank came down to the margin of a little rill or stream we might impart a novel finish to it by planting *Mimulus*, *Marsh Gentian*, *Moneywort*, and *Myosotis* alongside and in the stream itself, relieving them by such plants of bolder growth as *Iris Pseud-acorus*, the pink-flowering Rush (*Butomus umbellatus*), and some of the narrow-leaved Ball Rush.—EDWARD LUCKHURST.

## DECIDUOUS TREES AND SHRUBS.—No. 2.

AGRICULTURE and horticulture have appropriated not only all the best land, but nearly all the ground available for profitable cultivation, leaving only that for the arboriculturist which from difficulty of access or other impediment is impracticable of cultivation or not calculated to prove a profitable investment. It is difficult to account for the antipathy of the agriculturist to trees; they are neither valued as shelter from cold, nor as affording shade against heat. Nothing pleases him so much as to see the felling of trees. He will not tolerate trees on his farm if he can help it; and as for having anything growing near his dwelling taller than cereals, it is never thought of but to be avoided. A plantation of trees to him means more "varmint," less grass, less grain, and smaller profit. Lines of trees as hedgerow timber are certainly not picturesque, but a few trees even in hedges are not undesirable. I know the difficulty of cultivating arable land where trees prevail in the hedgerows, and of the impoverishment of the soil so far as the roots of the trees extend, and also of the injury to crops by the shade from overhanging branches; yet with increased size of fields, where two and more have been thrown into one, a few trees might safely be tolerated. Clearly an Oak or an Elm with a clear stem of 10 to 12 feet would not present any serious obstruction to tillage, and such if widely planted at irregular distances would do much to improve the appearance of the district, for even a locality of "high farming" appears sterile when destitute of trees. Probably no part of the country is so barren of trees as that through which the Great Northern Railway runs between Grantham and Hitchin, and yet I greatly doubt if that district is more profitable than others where trees abound in reasonable numbers. Great numbers of trees do not contribute to the beauty of the landscape, but in the distance resemble a "wood,"—very different from scenery with open glades intervening between the masses of trees.

The influx of foreign timber may have done much to discourage the planting of trees, for with a depreciation in the value of home-grown timber it is only likely that the estimation of trees would be lessened by their proprietor. It costs little to fell trees, and by removing some of the hedgerow timber, especially that overhanging small trees, the land will give an increased produce and bear a higher rent; but that is not a sufficient reason why all the trees should be cut down. It is difficult to saddle the right horse with what in many instances can only be looked upon as a wanton destruction of

timber. There is no objection to the application of the axe after a tree becomes of the best value as timber; to leave it after this is to leave it to decay, but there is no reason whatever in clearing the country of trees and planting none. It is as bad or worse than planting everything and felling nothing; and though, as a rule, timber should be turned into money when of the most profitable size or age, yet there are trees which from their associations and stateliness have marked for themselves a distinction above their fellows. These have secured such a hold in the estimation of the public as to be almost venerated. In removing trees, therefore, that are at their best, is it not worth while to spare a few of the better specimens for the benefit of present and future generations? Our historic and ancient trees will not endure for ever, and is the present to have all and the future nothing? Spare, then, some of the grandest and noblest specimens of Nature's ornaments.

I shall not do more than allude to the alleged comparative increased liability to drought from the absence of trees which is found to have resulted in some countries. I do not wish to compare this country with a vast forest, but I am sanguine that the preservation of its natural beauty is not incompatible with a high agricultural cultivation. If it be desirable to fell timber it should be an injunction to plant, not perhaps in the same order so as to impede tillage, but when hedgerow timber is removed what is to hinder a like number of trees being planted in a mass, taking off a portion of land where the fields form angles, and form it into a plantation? That might to some extent encourage game, but as hares and rabbits are being put aside by a majority of sportsmen, there is nothing to apprehend on that head of a character injurious to the agricultural interest; but, on the contrary, an increase of winged game would be valued by almost all landlords and not a few tenants. There is many a strip of land difficult to work which might advantageously be the site of a plantation.

I shall now proceed to offer some remarks upon what is often considered a well-wooded country, because every hedgerow is studded with trees, and woods are neither small nor distant. In a majority of cases of an overwooded district the seats of landed proprietors are located. Is there any beauty in a park studded with trees, which form a "wood" and disguise the mansion? Trees in such places are not unfrequently in lines over the whole of the surface, and composed of the commonest trees of the country. They have not been retained or planted with a view to displaying them in their greatest beauty, nor for enhancing particular views of the surrounding scenery. Parks thus planted exhibit none of the principles of ornamental grouping, the effect of the trees being to curtail the appearance of extent from every point of view.

To improve parks of this character the trees will for the most part need to be removed from the interior, or so as to form glades, having few or no closely-planted masses, retaining those near the boundary so as to form backgrounds to the interior. The trees retained should be so disposed as to give the greatest depth of view, and at the same time not show the boundary in the distance. When the effect of a mass is desired it may be produced on level ground by an open grove of scattered trees. Flat surfaces can only be improved by varying the character of the glades in size and form. Forming glades or vistas would necessitate planting young trees amongst the old, which would add greatly to the variety and beauty of the scenery, remembering to plant at such distances that the trees will show their natural forms.—G. ABBEY.

## SEEDLING BRIARS.

IN answer to "J. E. B.," I confess that I have not had much to do with Roses worked on this stock except Teas, but I believe that the mode of budding them is precisely similar to that of working on the Manetti. The great point in both cases is to work very low—almost on the roots. On the seedling Briar I should imagine this is more necessary than on the Manetti. I have just received a quantity of Teas on the seedling Briar from Mr. George Paul, which quite electrify me. I never saw such fine roots. I have never tried H.P.s on this stock, but Mr. Reynolds Hole has pronounced it to be the finest of all, and this after a most exhaustive trial. I think "J. E. B.," who lives in the same neighbourhood, cannot do better than consult Mr. Hole.

My own opinion of the stock is, that it is the grandest of all for Teas and such Roses as Marie Baumann, but judging from experiments tried by my friend "Hercules," I do not think it is so good as the Manetti for the ordinary run of Hybrid

Perpetuals. I should certainly recommend the ridge system if the soil is very thin and poor, but not, I think, in good soil. Mr. Cranston and many of our best Manetti Rose-growers never earth-up theirs, but other great growers such as Mr. Keynes do, and he has a wretchedly poor soil.—WYLD SAVAGE.

### USEFUL VERONICAS.

VERONICA BLUE GEM is noted in the Journal of last week as a valuable autumn decorative plant. There can be no doubt whatever that it is highly worthy of note and of cultivation, and few, if any, who have seen plants, as you say, well grown, can dispute their value.

When this plant was first introduced more was claimed for it than was warranted. It was announced as being a continuous summer-flowering bedding plant. It failed to sustain that character. It is not, at least in many districts, a summer-flowering bedding plant; but it is, when well cultivated, an autumn-flowering greenhouse plant of great usefulness.

I know of no other plant in the same season—that is, from October until January, that will give with so great certainty and with so little trouble such a supply of flowers as elegant in form as they are attractive by their sky-blue colour. The flowers of this plant are always welcome for bouquets and for various purposes of room decoration; and they are produced in the greatest profusion on healthy plants, which do not receive the slightest injury let them be cut ever so severely. But not only as affording a plentiful supply of cut flowers is this Veronica worthy of culture, for the plants if not cut are extremely beautiful for conservatory decoration. As forming a fringe for Chrysanthemums these Veronics are distinct and pleasing. They are also different in colour and habit from Primulas, Geraniums, and, indeed, almost all other winter-flowering plants, and hence their value.

I have grown these plants according to both the modes suggested—that is, by retaining them in the pots all the summer, and planting them out and potting them in October. In raising a stock quickly I advise the planting-out system, but when once the plants have attained to the desired size I prefer keeping them in pots. When large plants are planted out they produce such a quantity of roots that they cannot be placed in pots of convenient size; but by keeping in pots the plants can be preserved in a healthy state by rich food and plunging the pots in ashes.

Another useful Veronica is the old *V. speciosa*. In the days of my boyhood this plant was more extensively cultivated and more greatly valued than it is now. It is, notwithstanding, just as beautiful now as then, and equally useful. Large bushes in pots or tubs are extremely ornamental for the decoration of terraces in the autumn, and the plants if placed in a conservatory continue flowering far into the winter. Such plants may also be cut with impunity, and their flowers are always valued for the furnishing of vases, &c. A variety with variegated foliage has become deservedly popular as a back-row ribbon plant in flower gardens. Its variegation is very constant, and plants of this Veronica mixed with *Ageratum* or dark-foliaged plants are extremely effective. Yet of still greater value have I found this plant when grown to a flowering state and employed in the decoration of the conservatory, where the pale blue flowers associated with the white-striped foliage are peculiarly attractive. The plants if supported with liquid manure continue flowering freely almost throughout the winter.

*Veronica imperialis* is also an extremely handsome decorative plant. It is a strong grower, even stronger than *V. speciosa*, and is perfectly distinct in colour from any of its congeners. The colour of this variety is a bright amaranth-red, changing to magenta, the petals, which are prominent, being pure white. The plant grows and flowers with great freedom, and large specimens are very ornamental throughout the summer and autumn. It is highly worthy of cultivation, and should have a place in most collections.

I have still to direct attention to another useful Veronica, one perfectly distinct from those above named, and of more modern introduction. It is probably a French variety, its name being *Mlle. Claudine Villermoz*. I have not seen it in any list except that of Mr. Cannell, from whom I received it. I should not like to be without this Veronica, for it is almost always flowering, and its colour is so rich—a deep indigo blue. Plants flower profusely when in a quite young state, and continue producing flowers with every fresh pair of leaves which the plants make. Plants have been flowering all through the

summer, and did not cease during the hottest weather, and they are flowering still as freely as ever. It appears to be a plant for any season, and is valuable for many purposes of decoration.

These shrubby Veronics strike readily from cuttings of the young shoots inserted in sandy soil and placed in heat. The plants grow luxuriantly if planted out in the summer, and freely if grown in pots plunged in ashes after the manner of Chrysanthemums. If it is desired to keep the plants as dwarf and compact as possible they should be partially dried after flowering, cutting them down early in the spring, and when they commence growing shaking them out, reducing the roots, and repotting after the manner of Pelargoniums. They require a sunny position and plenty of water. They are seldom attacked by insects other than green fly occasionally, and these are easily extirpated by syringing with a solution of soft soap and tobacco water.

Veronics are a very extensive and varied genus of plants, and probably other cultivators may be able to add to this short list some others which are useful for some purpose of decoration in or out of doors.—A SURREY GARDENER.

### THE ROSE ELECTION.

If any proof is wanting of the wide-spread circulation of "our Journal," it may be found in the following incident. A day or two since I received a note from Mr. Ellwanger of Mount Hope Nurseries, Rochester, replying to my request for names of raisers and age of Roses, and giving me the needful information about several. I add it here, that those interested may fill it in in the poll list. It was not till I looked at the direction to reply to my kind informant that I found the letter was from a rosarian in America, at Rochester, who thus through "our Journal" give a kindly greeting across the Atlantic. I confess to being gratified by the kind trouble taken by one so distant, proving that though so many miles separate us, yet "our Journal" is a bond of union and brotherly feeling wherever it circulates, which is pleasant indeed.

In appending the list I am sure I may add the thanks of many Rose-growers in England to my own to Mr. Ellwanger for his trouble in helping to complete the list.

Sénateur Vaisse	1859	Gaillot, père.
Gloire de Dijon	1853	Jacotot.
Victor Verdier	1839	Lacharme.
Souvenir d'Elise	1854	Mares.
Souvenir de la Malmaison	1843	Belue.
Mlle. Marie Finger	1873	Rainaud.
Beauty of Waltham	1832	Paul.
Général Jacqueminot	1833	Roupelet.
Madame Charles Crapetot	1859	Fontaine.
Jules Margottin	1833	Margottin.
Comtesse de Chabrillant	1859	Mares.
Maréchal Vaillant	1861	Lecomte.
Céline Forestier	1859	Leroy.

—JOSEPH HINTON, *Warminster*.

### AMATEUR GRAPE-GROWING.

WHEN in the neighbourhood of Rothbury in September I visited a few of the gardens in that locality. One of them I should like to mention, as an account of it may be interesting to some amateur readers of the Journal, and may stimulate to further efforts in Grape-growing. The place I allude to is Clive House near Alnwick, the residence of D. P. Bell, Esq. Immediately on arriving Mr. Bell conducted me to his vineries. The principal houses are three span-roofs; one 40 feet, one 66 feet, and one 80 feet in length, all 18 feet wide with sides 3 feet 6 inches high, the height to the apex of the roof being 14 feet. They are ventilated in the usual way—top and bottom. These houses were erected in the early part of 1871, and the Vines were planted in April of that year, and for the last three years they have borne heavy crops. The two smallest houses are planted with Black Hamburgs, and the largest with late sorts—Lady Downe's, Mrs. Pince, Alicante, Syrian, Black Morocco, Muscat Hamburg, and a Black seedling of great promise. Besides this there is a half-span house planted entirely with Lady Downe's, which are now bearing a magnificent crop of fine fruit, the weights of the bunches varying from 1 to 3½ and 4 lbs. This house is 35 feet long and 14 feet wide, and was planted thirteen years ago. The only other glass erection is a curvilinear house 32 feet long, answering the double purpose of a vinery and greenhouse, and was put up seventeen years ago. With this house Mr. Bell commenced his first experiences as an amateur Grape-grower, and



since that time his interest has hardly ever flagged in the culture of the Vine.

During the past season Mr. Bell has grafted some of the late sorts on to Black Hamburgh stocks, with the view of employing one of the houses for winter-cropping purposes, introducing also some newer kinds of Grapes. In this grafting he has been very successful, as only two out of above fifty grafts have failed.

I have seen many good crops of Grapes, but I never witnessed such an extraordinary weight of fine fruit as were hanging in these houses. The Hamburghs wanted a little more colour to make them perfect, but the late sorts were all that could be desired—good-sized bunches, large berries, and well coloured. As proof of what I say in regard to such enormous crops, I may instance that out of one span-roofed house 40 feet long Mr. Bell has this season cut over 730 lbs. weight of Grapes.

The borders of these vineries have been all thoroughly drained—that is, they have a good rubble bottom, with ordinary drain pipes to carry away the water. They are raised above the level of the ground, and are composed of turf taken from a field near the garden, and as it was rather a heavy loam it was well mixed with lime rubbish, bones, charcoal, &c. Mr. Bell is a great advocate for liquid manure, and he has great faith in a change of food for the Vine. I may add that the owner of these Vines himself does all the principal work that they require, so that he is in the real sense of the term an amateur Grape-grower. My motive for writing this is to stimulate others to do the like, as I am certain that Grape-growing if well conducted will repay for any amount of trouble and expense that may be incurred in making a beginning; and, in addition to mere profit, there is pleasure in Grape-growing. I know it is a great source of enjoyment to Mr. Bell when he is relieved from the more pressing duties in connection with his business to again visit his favourites—the Vines.

In conclusion I must admit that I have gained a wrinkle or two from seeing Mr. Bell's Grapes, and also from correspondence that I have had with him, a correspondence arising out of an article in the Journal, and I have no doubt but that more will yet be heard of Mr. Bell's success as a Grape-grower.—JAMES DICKSON, *Arkleton, Langholm.*

### THE ROYAL HORTICULTURAL SOCIETY.

ON the 8th inst., as the result of long negotiation and much correspondence, some members of the committee of debenture-holders of the Royal Horticultural Society waited upon the Council of that body at South Kensington with a view to discussion, and if possible, the arrangement of their claims upon the Society or the Exhibition Commissioners of 1851. Mr. De Castro, the Hon. Secretary of the debenture-holders' committee, was present with the members. The position of the debenture-holders is, that under the agreements between the two contracting parties—the Royal Horticultural Society and the Royal Commissioners—they lent £50,000 to be expended on the Commissioners' property in making an ornamental garden at South Kensington, the Commissioners expending the same amount in enclosing it with arcades. In August last Lord Aberdare, the President of the Society, announced at a meeting of the debenture-holders, that in consequence of the inability of the Council to maintain the Society as a paying concern at South Kensington, the security of the debenture-holders was in a perilous position. Subsequently, when applied to by the committee of debenture-holders, the Royal Commissioners refused to negotiate with them save through the Council of the Royal Horticultural Society. Nevertheless, the debenture-holders contended that they advanced their money in the belief that they had the joint security of the Royal Commissioners and the Society. A few days ago the Royal Commissioners addressed a letter to Dr. Hogg, the Hon. Secretary to the Council of the Society, offering to give power to their own committee of inquiry to endeavour to arrive at some arrangement with the Society, under which the lease of the Horticultural Gardens at South Kensington should be terminated on the payment of a given sum to the debenture-holders. Dr. Hogg communicated this offer to the debenture-holders' committee, and the latter, with some debenture-holders, met yesterday morning to consider it, the offer of the Royal Commissioners being, it is understood, less than 10s. in the pound. Some of the debenture-holders had expressed themselves, it appears, determined to stand out for at least 10s. in the pound,

while a very small number thought 20s. in the pound ought to be paid them. But it was stated that for this amount the Commissioners were not liable, for if the Society should "last out" its lease up to 1892, with the still overhanging debenture debt of £50,000, the Royal Commissioners would only have to pay one-half the amount. The debenture-holders' committee met the Council of the Society at two o'clock yesterday, and after an hour and a half's discussion the committee declared the offer of the Commissioners was not satisfactory, and the resolution came to was that the committee should draw up a statement and submit it to a general meeting of the debenture-holders to be called in a week or two. The conference had no result but that, and in the meantime it is taken as inevitable that at the end of the year the Gardens at South Kensington must pass out of the hands of the Royal Horticultural Society, as there are no funds either to keep them up or pay the rent to the Commissioners.—(*Times.*)

### WELLINGTONIA GIGANTEA VAR. PENDULA.

This is the second variety that has occurred of the "Mammoth Tree" of California. The other variety is Wellingtonia



Fig. 63.

*gigantea variegata*, of which many of the branchlets are of a pale straw colour. Of the variety of which we publish a woodcut, Messrs. Little & Ballantyne write to us that "It is a chance production, which appeared among a lot of seedlings six years ago;" and they add that "all who see it admit it to be perfectly unique. At this time we know of no similar tree."

### LATE ROSES.

ANYTHING about Roses emanating from Mr. Paul needs no confirmation; but it may possibly interest some of the many readers of our Journal, especially now we are all taking stock of what we have and what we want in Roses, to hear that

yesterday (November 8th), I had in my garden, in various stages from bud to blossom, blooms on *Maréchal Niel* (a standard), *Gloire de Dijon*, *Souvenir d'un Ami*, *Madame Falcot*, *Climbing Devoniensis*, *Marie Croûde*, *Pierre Notting*, and last but by no means least, that glorious autumnal Rose, *Souvenir de la Malmaison*. I may add for the information of all whom it may concern, that my garden is surrounded by a wall 9 feet high, the soil being naturally light, with a substratum of gravel, and that though the natives of this ancient borough (Bury St. Edmunds), will say it is a very healthy place with a fine bracing air, I have heard strangers call it "beastly cold."—ST. EDMUND.

P.S.—A snowstorm last night has not improved the buds of yesterday.

### GRAPE-GROWING—INFLUENCE OF THE STOCK UPON THE SCION.

I HAVE sent you a bunch of Grapes cut from the Madresfield Court Vine which was some years ago inarched on a rod of the Black Hamburg. The length of the rod of the former was about 8 feet long, while that of the Black Hamburg projects about 4 feet beyond it. The Madresfield Court is growing in a tub, and the Black Hamburg in a large pot. You will see that the flavour, shape, and disposition to crack are changed. The fruit on the rod of the Black Hamburg projecting beyond the graft continues unchanged. I sent an account of this experiment to Mr. Darwin, who thought that the Madresfield Court might have been a seedling of the Black Hamburg, and that the latter's sap caused it to return to the original type.

At the same time that I made this experiment I also inarched another Madresfield Court on the common Sweetwater. The scion behaved in a precisely similar manner. I removed the Madresfield Court from the Sweetwater, and was surprised to find that the former for the first year produced berries similar in shape, flavour, and nature to those I now send you. There is no doubt that the saps of the two original types ride over that of the recently established seedling.—OBSERVER.

### EUCALYPTUS GLOBULUS.

THIS beautiful evergreen, having fine silvery blue-green foliage, is of rapid growth, the whole plant emitting a balsamic odour, and said to possess wonderful febrifugal properties. From the supposition of its capability of destroying the malarious elements in the atmosphere it has been recommended as a sanitary plant. Unfortunately, however, its value in freeing the atmosphere of malaria in this country appears, from the doubtful hardness of the plant, to be very much restricted. The efforts which have been made to acclimatise it in this country have not been very successful. It is likely, however, to succeed in sheltered situations in the south and south-western parts of the kingdom and in Ireland, from which there are reported cases of success. Except in very warm sheltered situations in the midland counties and also dry, securing sturdy well-ripened growth, little success has attended its cultivation. In the north, however, I fear it will need to be grown under glass. The west coast of Scotland may be an exception, for, being so much under the influence of the Gulf Stream, the west is much warmer than the east coast.

It has been known to be cut down to the ground by 16° of frost, and as that is much less severe than may be expected in an ordinary winter it is very unlikely that the tree will become general throughout the country. Much may no doubt be done by acclimatisation. If seeds could be perfected in this country it is likely we should have an advance towards greater hardness in the progeny, resulting ultimately, no doubt, in the origination of a hardy variety. This can only be effected by a series of experiments with the plant in a variety of situations throughout the country. I have seen it thriving luxuriantly in an orchard house unheated in the neighbourhood of Bradford in Yorkshire, and have also seen young plants cut off to the ground in an unheated house, the plants having been grown outdoors and the wood was very unripe; but if its hardness can be sufficiently established to that extent—i.e., loss of the growth made in the summer and renewed the following season, no more protection being afforded than a slight mulch, the plant becoming herbaceous, we may secure its advantages as a very handsome distinct-featured plant with possibly its malaria-destroying properties.

It is most readily propagated by seeds (which may be procured from any of the principal seedsmen) sown in March in

sandy loam and leaf soil with a little peat, and placed in a hotbed having a bottom heat of 75° to 90°. The plants soon appear, and should be potted-off singly when the second leaves show, keeping them shaded until established and growing-on in heat until May, when they should be well hardened off and planted out in June. A plant may be put out against a wall with a south aspect, another in a dry sheltered yet open situation, and others in different positions where most needed for testing their hardness and sanitary properties. In the interim information as to its hardness is solicited.—G. ABBEY.

### MANURING ROSES.

IN answer to the question of "MIDLAND COUNTIES ROSE-GROWER" on this subject, very much must depend on the object he has in view. If it be for exhibiting, a larger quantity will be required than for ordinary garden purposes. My object in growing Roses is that I may have under my own eye those which I am so constantly called upon to judge, and to obtain, therefore, such newer sorts as are likely to make their way as exhibition Roses. I have good flowers sometimes which I should not be ashamed to put into competition with any growers that I know; but, as I do not exhibit, cannot say that I could make up a stand. I do not, therefore, bud a quantity every year. My plants are two, three, and four years old on *Manetti* or seedling *Briars*. My soil is a light garden soil, to which I am adding some stiffer loam, and I manure as far as I can with pig manure. This I believe (sad though it may be to say so) is that which her majesty the Rose most likes. It is not so hot as stable manure, and has not so much tendency to encourage fungus at the roots, and has more strength in it than cow manure, which, however, is very good, especially in hot soils. My rule is to place it as a top-dressing on the beds in the autumn, when it seems to protect the roots from the frost, and then to dig it in in the spring.

Mr. Hole, who writes for exhibitors, recommends farmyard manure to be applied in November, and again to top-dress in June. Mr. Rivers recommends a surface-dressing in March, or cocoa-nut fibre saturated with liquid manure, and states that brewers' grains, after being fermented in a heap for two or three weeks and mixed with burnt earth, are a most powerful stimulant applied in the months of November and December, and for a summer dressing recommends a mixture of wood ashes and guano in the proportion of a bushel of the former to half a peck of the latter, quarter of a peck of the mixture to be given to each tree, letting it remain undisturbed on the surface and to be well watered in dry weather. Mr. Paul is strongly in favour of spring manuring, and recommends night soil prepared with an admixture of loam, to be placed in a pit and used after six months, either to be forked-in or scattered over the beds immediately after they are forked-in in the spring. Mr. Cranston agrees with me in considering pig manure to be the best, next night soil, and then cow dung and horse dung. Pig dung to be put on the ground during winter or early in spring, and forked-in at once.

It will thus be seen by your correspondent that in this, as in most other things, doctors differ, and he can choose from these various plans that which commands itself most to him and seems best adapted to his soil.—D., Deal.

### HYBRID NOSEGAY GERANIUMS.

I CAN assure "AGE" that it is not from want of trying other sorts of Geraniums that my preference has hitherto fallen on the Hybrid Nosegay section, and that as yet I have found Mr. Pearson's strain the best. I have still *Jean Sisley*, *Harry King*, *Lady Kirkland*, *Star of Fire*, *Rose Rendatier*, *Charley Casbon*, &c., but I have found it impossible to preserve every sort from *Tom Thumb* and *Stella* to *Vesuvius*, *Lucius*, &c. Geraniums are not like Roses where one can have mixed beds; nor are they, like Roses, hardy so as to take care of themselves if properly attended to when once established.

Those who like "AGE" prefer small trusses and a quantity of bloom all at one time, can of course grow *Vesuvius* and others of that stamp. I have always asserted that *Violet Hill*, where it succeeds, is still my type of a dwarf bedding Geranium, and *Charley Casbon* is nearly equally good in its way, but both these kinds require to have the old plants kept in order to have early and good blooms. No doubt in wet weather the centres of large trusses are apt to be injured, but equally so in wet weather the blooms of the smaller-trussed varieties are knocked down and disfigured.

I have only tried to give your readers the benefits of my own experience in my own garden, and can assure "AGR" I have had no interest whatever in recommending Mr. Pearson's strain other than by having found by careful selection, carried on now for many years, that they have succeeded better than any others in my garden, and nearly all gardeners and amateurs who have seen them have decided the same. I have no wish, however, to prejudice in any way the growers of other sorts of established reputation, and for pot culture I admire many of Dr. Denny's strain immensely, as well as those of some other raisers.—C. P. P.

### WINTER BEDDING.

THE objection which has been often urged against the system of summer bedding which has now enjoyed an innings of more than twenty years—namely, that it leaves the ground bare for six months of the year—should be no objection at all; the ground need not necessarily be bare for one day. The objection is obviated at once by covering the ground with spring-flowering plants, against which, however, still graver objections may be urged—we mean, against spring bedding pure and simple—the chief of which is that in most seasons it has a tendency to become more properly early summer bedding and no spring decoration at all, the plants being in their prime of bloom just when the summer bedding ought to be in hand; the ground in fact should have been for some time under preparation for those to secure a successful growth and display. Another serious objection to the popular spring bedding is that although the ground be covered with the spring plants they do present but a dreary appearance the whole of the winter; beds with bulbs only are nothing better than beds simply dug over, and the rest monotonous until the flowering period commences. And now supposing our present flower beds entirely given up to choice herbaceous plants in summer, which of course live in the ground in winter, the same objection of dreary monotony would exist.

Now we know there is a remedy for all these objections, if it were only generally practised more or less according to the capabilities of different gardens, by a liberal use of the many elegant and various-coloured dwarf shrubs now available for that purpose. Although winter bedding with dwarf shrubs is nearly as old as summer bedding, it does seem strange that it is not more generally adopted. Everybody down to the railway porter has their summer beds gay with the latest Geraniums; and although we should not expect him to indulge in coloured shrubs, we should expect to see the gaunt flower beds about a gentleman's residence made presentable in winter.

We should not propose that winter bedding be done entirely with shrubs; it would be ridiculous to ignore any one of the spring-flowering plants now in use; we rather think that their beauty would be enhanced by being judiciously arranged with the shrubs, and the effect of the whole eked out by largely pressing the hardy carpeting plants into the service as embroidery or edging. Combinations of these three classes of plants can be made exceedingly effective even in midwinter, the more striking and cheerful effects being dependant on the shrubs. Nothing will be more convincing of the cheerful effects which can be produced in winter by shrubs alone, than a walk through a well-stocked and well-appointed nursery where the various shrubs are grown in large groups and quarters. The colours among Euonymuses alone are very varied and striking—from bright yellow in *E. latifolius aureus*, through various shades of yellow, silvery grey in *argenteus elegantissimus*, and nearly white in *radicans variegatus*. Among *Retinosporas* are also several effective shades of colour, the silvery grey of *squarrosa*, red of *ericoides*, and yellow of *plumosa aurea* and *pisifera aurea*. The forms and colours in *Cupressus Lawsoniana* are now become very various and distinct (colour is what we have most to consider at present, from dense dark green to light green and glaucous): Waterer's variety of *C. argentea*, *C. albo-variegata*, and *C. aurea variegata*, and there are yet other varieties of hoary grey colour after the manner of the colouring of *Thuja Vervaneana*, which are exceedingly well adapted for winter bedding. Boxes and Hollies furnish a large variety of effective bedding shrubs in themselves. The gold and silver varieties of Holly require no recommendation; they are not expensive in the young state, and one circumstance in their favour is that they bear moving in April, if it be not the very best month in which to move Hollies. It is not our purpose to mention by name all the many plants fit for winter bedding—many more, we are aware, could be employed here

in the south than to the north of London; but *Ericas herbacea* and *vulgaris aurea* deserve to be specially mentioned, also the numerous varieties of *Vincas* and *Ivies* as being so easily propagated at home.

In massing beds for winter one or more varieties of shrubs may be used for the centres, to be banded round by such of the spring bedding plants as may be decided on for contrast, such as *Myosotis*, *Arabis*, *Belvoir Castle Wallflowers*, or *Pansies*. Or a bed may be filled entirely with shrubs, the centre of the larger-growing sorts banded by *Heaths*, *Euonymuses*, *Ivies* of any dwarf trailing sort, mixing the dwarf shrubs alternately with *Hyacinths*, *Tulips*, or other spring bulbs, so that the ground may not be at any time bare, and yet the effect of the bulbs be enjoyed in spring. Large beds may still further be embroidered by the different *Saxifrages*, such as *hypnoides* and other bright green sorts, or the white crusted sorts and the different coloured *Sedums*. *Daisies* work well in with the *Sedums* and *Sempervivums*, and when in flower look neat and showy in rays and scollops round large beds. *Daisies* and all the sweet *Violets* are making an early autumn effort at bloom this season: even the *Neapolitan Violet* is as full of bloom as if it were March; that is, however, premature and peculiar to the season—the dull days of December will check them.

The chief reason why winter bedding with shrubs is not more largely carried out is probably the fear of the first expense. A large stock of useful-sized plants would no doubt involve a considerable outlay, and but few would launch into that expense at once for a large garden. They are not exactly the gardener's plants to be increased by thousands without any apparent expense to the employer in a few months; they may, however, be as easily and readily propagated as bedding plants with the proper means, though not so quickly grown into size; when once propagated they are not so fugitive as ordinary bedders—they remain serviceable for years. Some can be increased by division very readily, such as *Erica herbacea*, *Retinospora ericoides*, *Vincas*, *Euonymus radicans*, *Ivy*, various sorts of low dwarf *Rhododendrons*, and even *Thuja*s and *Cupressus*; very many can be raised from cuttings under hand-lights or in cold frames in autumn, such as all the broad-leaved *Euonymuses*—in fact all the broad-leaved Japanese plants, as *Aucubas*, the Japanese *Retinosporas*, *Thuja*s, *Cypresses*, and many of those softwooded shrubs, strike readily from cuttings. The same amount of care which is required to propagate many of the summer bedders will be equally successful with these if a fair trial be given them. Shade from bright sun, and the moisture of a cold frame with frost excluded, are the best conditions for success, inserting the cuttings firmly in sandy peat. Variegated Hollies are often propagated in this way, although grafting is the usual mode. The difficulties of propagation are not so great as to prevent a satisfactory effort being made with the view to so desirable a result as the acquisition of a cheap and useful stock of winter bedders. When dwarf shrubs are removed from the beds in spring, a cool moist situation should be devoted to them in which to grow them for the summer. Any light sandy soil will suit them if not too much impregnated with manure; in stiff clay soils they do not generally do so well, and where such exists a piece of ground must be prepared for them. The frequent removal keeps them dwarf, and encourages a mass of roots close at home. No better time could be chosen than October for moving in autumn, the month when the work must be done; and again in spring no better time could be chosen than April, the month when the same work must be done. We are aware that these matters of soil will be a serious drawback with many. A dry draughty situation is also a difficulty not easily overcome; an elevated inland situation where the winter is severe, is unfavourable to the cultivation of the better class of Japanese shrubs; but to those so situated we say there are plenty of subjects suitable for the purpose, though the choicer must be avoided, and after all we think even these are but few.—THE SQUIRE'S GARDENER (in *The Gardener*).

### MADRESFIELD COURT GRAPE CRACKING.

I WAS much interested by the remarks on page 388 respecting what is called the "besetting fault" of this superb Grape, and of its alleged demerit of conveying this evil propensity to the scions of other varieties. From these conclusions of our Irish friend I decidedly differ.

I have growing in the same house several Vines of *Madresfield Court* and *Gros Colman*.—The former has finished its

bunches, as in previous years, to perfection in size, colour, bloom, and flavour without a berry bursting; but the majority of the berries of Gros Colman burst their skins shortly after the commencement of colouring (many of these berries were as far round as a penny-piece). This defect I can now see arose from my having removed the mulching from the border to accelerate the ripening of the fruit when several weeks of parching drought was succeeded by copious rains. The consequence was, this gross-feeding variety gorged itself with the suddenly-supplied sap, and the berries split. Most of the Plums outdoors did the same. I take it that judicious mulching and watering will always prevent Madresfield Court from bursting its skin, and I am confirmed in this opinion by the significant reply of the Editors of this Journal to an inquirer. After explaining the cause of the defect they add, "Our Grapes never split."—A NORWICH GRAPE-GROWER.

### METROPOLITAN FLORAL SOCIETY.

In last week's Journal "*D., Deal,*" expresses surprise at a statement made by me in a previous one in reference to the above-named Society, and I cannot allow his remarks to pass unnoticed. He says I thought the Society "with an empty exchequer ought to have offered prizes and arranged for an autumn show this year." Now, I never thought or said anything of the kind. What I thought and might have said is this: That it would be as much to the interest of the Alexandra Palace Company to hold a show in September for flowers and fruits, as it would be for the same Company to hold one later in the year for Potatoes only. Perhaps I also said that the same Company might have been disposed to encourage the Metropolitan Floral Society if it was worked on the same principle as other societies, including that for the encouragement of the Potato. All of them have rules which admit of the election of a president, vice-presidents, treasurer, secretary, &c. Now, I did write to the Hon. Secretary of the Metropolitan Floral Society, suggesting that we try to get a few influential names to fill those important and essential offices, to which letter I received a "mind your own business" reply. I certainly did do so, by neither answering the letter nor interfering further.

Just one word about a national Auricula show. The northern growers will come to London next year, and meet their brethren in the south in friendly rivalry. They ask for no guarantee of £20, but they leave it in our hands to make all arrangements; and we do hope, notwithstanding the "discount" at which florist flowers are held, to offer prizes to the amount of £50.—J. DOUGLAS.

"*D., Deal,*" says (page 407), referring to the exhibition of Carnations and Picotees at the Royal Horticultural Society's gardens in July last, "there were just five exhibitors—three from the neighbourhood of London, one from Ipswich, and one from Bath—a very poor foundation on which to rest a hope of a revival of the taste."

He further tells us the National Auricula Society will not come to London "unless some Society guarantees them £20," and in another paragraph he is good enough to inform us "florists' flowers seem hopelessly at a discount in the south." Permit me to say the exhibitors of Carnations and Picotees at the Royal Horticultural Society's July Show were seven—viz., Mr. Charles Turner, Mr. Douglas, Mr. Hooper, Mr. Cattley, Mr. Hines, Mr. Buxton, and myself.

His statement as to the purpose of the members of the National Auricula Society is also incorrect. I have been in repeated communication with the Honorary Secretary of the Society and various of the principal supporters since August, and not one word has passed as to £20 or any other sum. I know our northern friends have confidence in their southern brethren, and they will come (I undertake to say this upon my personal responsibility) not to contend for £20—the prizes will be twice or thrice that amount at least—but to demonstrate their devotion to floriculture.

To "*D., Deal,*" "florists' flowers may seem hopelessly at a discount in the south," but I speak from a much longer and wider experience than he can lay claim to, and he must be very unobservant who cannot see at the present moment palpable signs of a wide and lively interest rapidly extending for florists' flowers.

"*D., Deal,*" says of the Carnations and Picotees at the Royal Horticultural Society's Show above referred to, they "were fine... according to the *present* notion." I italicise the word "*present*" simply to say that "*D., Deal,*" can point to no period

since the Carnations and Picotees have been subject to the florists' care and objects of his regard, when flowers such as were there shown in the winning stands and in one or two which did not win would not have been thought fine. If "*D., Deal,*" proposed to take exception to the flowers then shown in contradiction to the terms of his report in your number for July 20th, it would be more in accordance with candour that he should do so openly rather than suggest the thought by the assertion that they were "fine according to the *present* notion."—E. S. DOWELL.

In my observations on this subject in last week's Journal I made a mistake, I find, as there were seven exhibitors, not five, of Carnations and Picotees at South Kensington in July, but it does not appreciably alter the matter. The National Auricula Society will not hold its Show in London, but I find that a promising effort is being made to hold a national show on April 25th at the Regent's Park, which I trust may succeed.—*D. Deal.*

### USEFUL APPLES.

"WHAT varieties of Apples are best for the months of April, May, and June?" is doubtless an important question, for good Apples in those months are always scarce and dear, and occasionally they can only be had at prices which are quite prohibitory to the great majority of those who covet a supply of this useful wholesome fruit.

While I trust that valuable information will result from the above reasonable question, I can hardly agree with "WILTSHIRE RECTOR" that medium-season Apples should be overlooked simply because "there are plenty of those to choose from." In my opinion that is not so much an argument in favour of non-discussion on the merits of Apples coming into use, say from October until February, as a circumstance suggesting that special care is requisite in selecting kinds which are the most useful for those seasons. If we examine large plantations or orchards of Apples we find that in most of them some mistakes have been made. A very common mistake, which has been previously pointed out, is the omission of an adequate number of summer Apples. Another mistake, and one arising from the fact of there being "so many sorts to choose from," is that much ground is occupied by varieties which are not in the best degree profitable. My experience has taught me that one of the most difficult points to decide by planters of fruit trees, and especially by those who are young and enthusiastic, is the leaving-out of sorts which are included in lengthy catalogues, and where almost every sort is credited as possessing some special virtue. It is in the great mid-season of the Apple period where careful discrimination is especially required, when it is desired to occupy ground in the most useful and profitable manner, so that the greatest advantage will result to both producer and consumer, for there is a natural alliance between the two which must not be ignored, and what is best for one is also best for the other.

Not all growers, however, plant trees with the one object of producing merely a profitable and serviceable supply of fruit; but plant with the object of deriving pleasure from the possession of a great number of varieties, and which will produce fruit adequate to their purpose. But beyond these, what may be termed fruit fanciers—a most laudable fancy—there are an infinitely greater number who wish to have the most reliable information possible on the varieties which are the most really useful. Long lists are referred to, but these only add to the perplexity of those who are devoid of experience, and hence it is during the period when varieties are the most numerous that discussion becomes the most necessary and is the most welcome. I would not, therefore, have the mid-season sorts passed up as unworthy of discussion.

"WILTSHIRE RECTOR" himself affords proof that a little interchange of opinion is needed on mid-season Apples, and cannot resist speaking in terms of admiration of one which he appears to set up as an example of his desideratum—beauty with utility. That variety is the Emperor Alexander. That is undoubtedly a handsome Apple, and the tree is a good bearer. It is particularly suitable for growing as an espalier, being too luxuriant for bush culture, and on standards in exposed places its fruits become bruised if not blown off by the winds. It is an excellent culinary Apple, but (and exceptional "buts" are often of considerable importance) it is perhaps the lightest of all Apples, and on that account I do not consider it one of the most useful and profitable to



cultivate. I would include it for such positions as it occupied in the garden referred to, but would not urge its being largely planted for supplying the markets with fruit, or for giving the best returns to the grower. What I mean is this—that “WILTSHIRE RECTOR” might plant it as an espalier in his garden to produce fruit for his own use and admiration, but if he desired to plant Apple trees to produce fruit for selling to his parishioners he can find other varieties which would be better for him and for them.

Our friend refers also to another Apple that has been frequently noticed—the “Greasy Coat”—as not, as he knows it, being good. I have very little doubt that the “book name” of Greasy Coat has transpired in the recent correspondence, and that it is the Transparent Codlin, which is a really good culinary Apple; few better in its season. It should be grown as an espalier or orchard tree, it being too spreading for dwarf bush cultivation. Its fruit, although large, is not nearly so much bruised by the wind or blown off the trees as is fruit of the Emperor Alexander, and Transparent Codlin is therefore suitable for growing as an orchard tree.

Large Apples as a rule are not the best for growing as standards, but there are a few the fruit of which is not only firm in itself but is also firmly affixed to the trees. A large Apple of this character is the Alfriston, which is in use from November till April, and is a very valuable kind. It does not usually produce a prodigious crop one year and little or no fruit the next, but is a useful steady bearer. I have seldom found it to fail in producing a profitable supply of fruit.

Another Apple which, in my opinion, deserves honourable mention as combining in a high degree “beauty with utility” is Beauty of Kent. It is in use from October to February, and it is as handsome as it is good for culinary purposes. On the Crab stock the tree grows very freely, sometimes vigorously; and on the Paradise stock in good soil the growth is sufficient, and the crop of fruit is almost invariably good. In some districts I have heard that trees on the last-named stock are prone to canker, but I have never been troubled with that disease affecting this variety, but I have been rewarded with splendid fruit from ornamental pyramid trees. I have found the fruit more highly coloured from the Paradise than the Crab stock; but on any stock and under any mode of culture—standards, pyramids, espaliers, and horizontal cordons—I consider Beauty of Kent to be one of the best of culinary Apples. It only fails when all others fail from the effects of severe spring frosts, to which, however, it is one of the last to succumb. Were I making an extensive plantation of Apples I should grow trees of this kind by the dozen, in confidence that the fruit would prove its worth in satisfying the public and myself. I commend this Apple to the notice of “WILTSHIRE RECTOR,” and all others whom it may concern, as being very valuable as a free bearer, also beautiful and good.

I have one more Apple to bring to the notice of our friend as also combining “beauty with utility”—namely, Cox’s Pomona. This is a splendid Apple, and excellent for culinary purposes. The tree bears freely in a small state, and its crop, either on cordons, bushes, or espaliers, is extremely handsome. It was raised I believe by Mr. Cox, of Cox’s Orange Pippin fame, and I cannot consider any garden complete which does not include these two sterling varieties in its collection.

The few varieties named are outside the list requested by “WILTSHIRE RECTOR,” but they are good, and others are also good of the same season, a season above all others where discrimination is particularly necessary on account of the immense number of sorts which annually puzzle many who anticipate planting few or many trees. I should be glad to have other mid-season varieties of special merit pointed out, and, if time permits, I will on a future occasion give attention to the sorts which are “best for the months of April, May, and June.”—A MIDLAND COUNTIES FRUIT-GROWER.

### WINTER SARRACENIAS.

THE different species of *Sarracenia* have of late become better known and more interesting to cultivators and amateurs since their insectivorous propensities have been so prominently brought before the public by Darwin, Hooker, and others. Their principal value is, however, generally associated with this peculiarity and their curious side-saddle flowers in summer. Few, even among plantmen, have any idea or knowledge of the marvellous leaf beauty of some of the species in winter when well grown. At the present moment the large purple pitchers of *Sarracenia Drummondii* and its white variety

*S. Drummondii alba*, are among the most showy and striking objects in the conservatories at Glasnevin. Without seeing them and gazing on the beautifully painted transparencies—for such like are the spreading lids and upper portion of their singular leafy tubes—it can hardly be believed how showy they are when grown and developed as they are at Glasnevin, where the average height of the pitchers varies from 18 inches to 2 feet.

If we are not mistaken, to Dr. Moore attaches the credit of being the first to effect a cross between species of this singular and very interesting genus. The parent plants he selected to manipulate with were *S. Drummondii rubra* and *S. flava*. The result was a truly grand cross, quite intermediate in aspect and character with its parents. Its peculiarities are that the coloured winter pitchers are not so bright as are those of *S. Drummondii*, but very different from those of *S. flava*. The latter, be it remembered, too, does not make winter pitchers; whereas those on the hybrid at present are of quite recent growth, 2 feet or more high, and stout in proportion. It seems to us to be unquestionably the finest.—(*Irish Farmers’ Gazette*.)

### ANCHUSA CAPENSIS (THE CAPE ALKANET).

I RECEIVED through the courtesy of Messrs. Carter & Co. of High Holborn this spring some seeds for trial, and amongst them was this, which promises to be a most useful addition to our perennial plants. It is vigorous-growing, but not rampant, with lovely blue Forget-me-not-like flowers, and has bloomed continuously from May to the present time, the flowering shoots being cut off as they decayed. I presume it is hardy, for it has not been in the least affected by the sharp frosts we have had; if so, it will be a real acquisition.—D., Deal.

### THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 13.

A WRITER in a popular journal has lately commented upon the partiality for floral adornment which prevails in the districts he calls Tyburnia and Westburnia. I do not know whether there is anything in the appearance of these districts which entitles them to be regarded as exceptional, for it is satisfactory to find a taste for flowers is tolerably general in our London suburbs. In St. John’s Wood, adjacent to the above-mentioned places, flowers are also much the fashion; and if we are to credit the axiom that wherever people are interested in the culture of flowers they cannot be irreclaimably bad, this much-slandered district may not deserve all the censure that is applied to it. Like a well-known western suburb, St. John’s Wood has a bad name, yet there cannot be a doubt that there are hosts of persons of good repute living in it, nor can you by any contrivance exclude queer folks from a locality. Evidently, however, the trade of florist is a good one in Paddington and St. John’s Wood, though only a small proportion of the plants sold there are grown on the spot. The district was not one remarkable for its nurseries in the reign of George III., when other districts, such as Chelsea, had flourishing establishments, and the reason was the scarcity of residents in the neighbourhood likely to be purchasers of plants. When Nightingale wrote his history of London in 1815 he notified the fact that Paddington was beginning to increase in size, though it grew slowly in importance, since the houses built were chiefly of a mean sort; and an account of Paddington written twenty years earlier informs us that of about 1200 acres of ground belonging to the parish, only eighty-four were under cultivation, and as we know houses were scarce then, the rest was doubtless used for pasturage.

Going back a good many years we find evidence that a good deal of this part of north London was woodland, though the precise date when it was cleared is not determinable. Hyde Park to the south was a portion of the same forest or wood, a curious reminiscence of which is extant in what poor Tom Hood the older calls “that bare wood St. John’s.” There was, after some clearance had been made, a wood which was the property of the Knights of St. John, and as they had also another wood at Highbury named “Little St. John’s Wood,” some slight confusion has arisen. The soil here, though clayey, yielded less water than the land farther west, where the character of the ground is shown by such appellations as Kilburn, Tyburn, Westbourne, and Bayswater. By degrees St. John’s Wood was cleared of its timber, a few trees, chiefly Elms, only remaining to tell the story of other days, and cows fed here peaceably, as in the adjacent districts of Paddington. A proof

of the presence of many cattle is furnished by Lyson's remark, that the ground was much of it "factitious" from the manure that had accumulated. Some of the farmers probably grew a few vegetables for the London market in the Paddington fields as far back as 1800; and from an "old inhabitant," whom adverse circumstances have brought to the level of a crossing-sweeper, I am informed that there were several "big orchards" at St. John's Wood and Maida Hill, which were to be seen some thirty years since, the trees, it may be presumed, planted early in this century, when London received most of its fruit from its immediate neighbourhood. Neither in Bayswater nor in St. John's Wood were there nurserymen known to fame in those times when the Dutch gardeners gave an impetus to flower-culture, though it is likely, had there been such, the district would scarcely have retained them for any length of time.

Local historians are mostly eloquent about the beauties of the mansion and grounds known as Westbourne Place, with a history reaching back to the days of Henry VI., but dating their beauty from their acquisition by Jukes Coulson a century since, who obtained the services of some of the best gardeners of that day. As his name, however, is not associated with the progress of horticulture it would appear that he did little more than render his grounds attractive to the eye. Still more renowned, though with a dubious fame, was Sir John Hill, a near neighbour of the owner of Westbourne Place and a medico-botanical quack, who had a following of credulous admirers. His books and pamphlets are never read now, save by those who may be studying the history of one who was half crazy, half a charlatan; and it is only needful to notice him here because he had a kind of nursery at Bayswater, in which he cultivated plants for his decoctions and distillations. If he had lived in this age he might have advertised freely, and so secured a good income from his "Water-dock Essence" and "Balsam of Honey;" but his repute speedily declined, and his medical garden was turned into a tea garden, becoming a popular resort for some years. As we are told that he selected the locality because it was peculiarly fitted for the culture of aquatic plants, it could not have been a very healthful spot, and probably where Hill once professed to cure diseases people afterwards caught ague and rheumatism. On land now covered with splendid mansions, and in proximity to Kensington Gardens, looking over the Uxbridge Road, there was a small market garden extant, if I remember aright, about twenty years ago or less. It was, I think, situated on the slope of the rising ground called Craven Hill, and where, according to a generally received belief, Earl Craven set apart land for the burial of any future victims of the plague. Eligible as the place was for a market garden, it was so much more eligible for the builder that it was soon seized upon when Bayswater grew with rapid strides after the Great Exhibition of 1851.

At the time numerous coaches ran along the Edgware Road the Pine Apple Nursery of the Messrs. Henderson would be a matter of remark, indicating that Maida Hill was reached, and that Kilburn was not far distant. There is, I presume, no doubt that it received the name it still bears from the fact that the Pine Apple was grown here successfully and largely also, but the establishment was not the one to which belongs the credit of having initiated the culture of this fruit. It was in the garden of Sir M. Decher at Richmond, Surrey, that the first English Pines were produced in 1718. Subsequently the London nurserymen made sundry improvements in the mode of culture, and even grew Pines freely in the open air with certain precautions. But as the atmosphere of the metropolis became more smoky it was necessarily unfavourable for a plant which London asserts needs above all things free ventilation to its leaves both under glass and when exposed. The present proprietors of the Pine Apple Nursery are unable to give such particulars concerning it as would fix its date, but from the history of the neighbourhood generally it may be conjectured to be not more than forty years old. At one period, writes the author of Bohn's "Handbook to London," this nursery was famous for its Heaths, and Vines were also paid much attention to; subsequently it was in high repute for forced and various greenhouse plants ere it was surrounded by a number of rival establishments. Probably from the demand for their plants being so considerable the Messrs. Henderson were induced to acquire another piece of ground in the Wellington Road, St. John's Wood, where they have produced many valuable and curious plants, as recorded in a short descriptive paper published in this Journal a year or two ago. Following the Messrs. Henderson we have the name of Weeks associated

with the nursery for a short period, but that name is better known in the regions of Chelsea.

A brief mention must be made of Maida Vale on the London side of the Pine Apple Nursery, because there a little cluster of nurseries is observable; and if they are scarcely to be called "old," they are memorable as, taken together, they form a pleasant reminder of bygone days when the Vale was rural, and also in such a suburb their existence may be but brief. First, moving northwards, we come upon the Clarendon Nursery, long occupied by the late Mr. Videon, from whom I might have obtained interesting information regarding the locality had he been living. His nursery, though moderate in size, was well planned out, but very probably, as a sale of the stock is pending, ere long the ground will be a prey to the builder. Adjoining is the nursery of Mr. McArthur, of less extent, and then we pass some private residences to come upon four more nurseries, Mr. Fairnington, who aspires to the dignity of being a landscape gardener as well as a nurseryman, having very suitably the largest plot of ground. The nurseries of Messrs. Titcomb, Fozard, and Pollett do not require anything to be said about them beyond the observation that no effort seems to be spared to utilise space, so that the gardens are not available, nor perhaps intended, for promenade. Also I was amused to perceive that there were growing within easy reach of by-passers, in so frequented a thoroughfare as the Edgware Road, Vegetable Marrows and other vegetables which might well prove tempting to the irrepressible London boy, who is seemingly better trusted in this district than in some others.

There is another nursery not very far off, yet which is so situate that many persons might wander about St. John's Wood and fail to discover it. This is in the Garden Road, a turning out of Grove Road, and is held (or was so until recently) by a Mrs. Ginn, who must be ranked therefore as a "nurserywoman." My "old inhabitant," whose memory was better than his descriptive powers, recollected the ground, which was then covered with fruit trees principally, being partially cleared for the erection of greenhouses, &c., something like thirty years ago; and confirmatory of his date was a line of trees on the north side of the ground appearing of about that age, and evidently planted as a screen from the north winds. Since a good part of this nursery already lies waste and yields a plentiful crop of weeds, the remainder will probably not be cultivated much longer, particularly as streets close by are shutting out the air and light.

Crossing the Edgware Road and going in the direction of Paddington we come rather unexpectedly upon a largish open space in proximity to the Elgin and Portsdown Roads. It formerly belonged to Paddington farmers, who could scarcely be termed "gardeners," though they sent some vegetables as well as milk to the London markets. On a strip of this land are to be noticed a number of small carefully tended gardens, with quaintly contrived huts or sheds for the purpose of holding tools, and here and there a home-made frame. These are allotment gardens, where working men spend time in wholesome employment which might otherwise be dissipated in the public house, and this excellent movement ought to receive the hearty support of all of us, certainly of those who are on a larger scale occupied in horticulture.—C.

## STRAWBERRIES IN NOVEMBER—GARIBALDI.

"MR. BENNETT, Rabley Gardens, Herts, sent a pot of Viscomtesse Héricart de Thury Strawberry, under the name of Garibaldi, full of fruit." That extract I make from your report of the Fruit Committee of the Royal Horticultural Society, and which is an authoritative ratification of rumours which have become somewhat common that Garibaldi is not a distinct variety. I saw the plant referred to above, which was bearing a good crop of nearly-ripe fruit, and I know that Mr. Bennett has been lately sending fine ripe Strawberries to Covent Garden, and obtaining "long prices" for them.

A Strawberry bearing so freely and ripening so well in the late autumn months is unquestionably an acquisition, and most gardeners would be justly proud of placing dishes of well-coloured fruit on their employers' tables in October and November, and it is certain also that those Strawberries would be appreciated. It is valuable to know that Garibaldi will bear fruit freely thus late in the season, but still more valuable to find (if such be the fact) that Viscomtesse Héricart de Thury will do the same. Plants under the French name are to be found in most nurseries and gardens, but plants under the Italian name are not nearly so easily procurable.

My own opinion is, and I express it diffidently, that Garibaldi is not the same as Viscomtesse Héricart de Thury. I have grown them both side by side, and the former had, in my case, rounder foliage with shorter footstalks, also shorter fruit stems and rounder fruit than the latter. Garibaldi, with me, was more compact in habit than the "Viscomtesse," and although both produced fruit in the autumn, Garibaldi produced it the more freely.

I remember when visiting in Lincolnshire a few years ago admiring a wonderful border of Strawberries in the gardens of Blankney Hall. It was late in October, and the crop then ripe was almost if not quite as fine as crops usually are in July. Mr. Frisby gathered dishes regularly for dessert, and I think he told me he did so every year with the same variety similarly treated. The plants which were fruiting so freely in the autumn had been forced in the spring and afterwards planted out in rich soil in a cool situation. I know that plants of Keens' Seedling will occasionally produce fruit in the autumn after having been forced and planted out, and that more certainly will Viscomtesse Héricart de Thury, but I have not found either of them so constant in this respect as Garibaldi. I do not now force Strawberries, but if I did I should rely on this variety as not only one of the earliest, but also—which is equally valuable—as being the latest Strawberry in cultivation.

It would be useful to know if Mr. Frisby still grows Garibaldi and if he considers it identical with Viscomtesse Héricart de Thury, also if Mr. Bennett is of the same opinion. A solitary plant in a pot is not sufficient to enable a decision to be arrived at; and although the members of the Fruit Committee may and doubtless have had practical experience with Strawberries having these names and had proof that they were synonymous, yet that does not quite prove enough, for they may not have grown the veritable "Simon Pure," the true Garibaldi.—A RETIRED GARDENER.

#### WEST'S ST. PETER'S GRAPE.

I HAVE often wondered why it is that this Grape is not more grown than it is. I believe it will not be found in one vineyard out of every hundred at the present day. It was always a favourite with me, and it is to my mind the most refreshing and agreeable Grape grown. It has, moreover, come under not only my own but many others' observation, that invalids have decidedly preferred it to any other Grape, which is a good criterion of its highly refreshing and thirst-satisfying qualities. For this alone I contend that my favourite should be thought more of than it is, for I believe that half, and more than half, of the Grapes grown or kept after this season are eaten by invalids. It is well known that Lady Downe's is very agreeable, and has a very refreshing quality about it; but its hard skin is oftentimes an objection to the invalid, while West's St. Peter's cannot be objected to on that score, for it has a very tender skin. I intend making a new plantation of it this year, and I hope those who have Vines to plant will bear this variety in mind, and I am convinced they will not regret having planted it. Of course it is not a sensational Grape, and can scarcely be called an exhibition Grape, but it is strictly an eating Grape, and above all an invalid's Grape, and it will hold its own against all comers.—K.

#### THOMAS ANDREW KNIGHT.

THIS well-known pomologist and first President of the Royal Horticultural Society was the younger brother of Richard Payne Knight, the writer of many observations on "Taste." They were the sons of the Rev. Thomas Knight of Wormsley Grange in Herefordshire, and where the subject of our notes was born on the 10th of October, 1758.

"My father," said Mr. Knight in a communication to us, "was a man of much learning and acquirements. Having great power of mind, and living in an extremely quiet and sequestered spot, he was supposed by his ignorant neighbours, in their language, 'to know everything.'" He died at an advanced age, when Mr. Knight was an infant, and as evidence of the respect his knowledge obtained him, whenever in childhood his son sought for information upon any unusual subject, he was told "that his father would have answered him, but that nobody now could." "Being born in the midst of orchards I was early led," continues this distinguished horticulturist, "to ask whence the varieties of fruit I saw came, and how they were produced. I could obtain no satisfactory answer, and was thence first led to commence experiments, in which

through a long life of scarcely interrupted health I have persevered, and probably shall persevere as long as I possess the power." The "Athenæum" epitomised as follows the chief of his scientific services.

When young Mr. Knight's education was so much neglected that when, at the age of nine years, he was sent to school at Ludlow, he was scarcely able to do more than read. But the days of his childhood had not been passed without employment. He had a great turn for the observation of natural phenomena, and having been left to occupy himself in the country in what way he pleased, he had already formed a close practical acquaintance with such plants and animals as Herefordshire could furnish. Eventually he graduated at Balliol College, Oxford, and subsequently occupied himself with researches into various points of vegetable and animal physiology. One of the most remarkable of his early investigations was contained in a paper read before the Royal Society in 1795 upon the inheritance of disease among fruit trees, and upon the propagation of debility by grafting. The county of Hereford had long been celebrated for the produce of its orchards, and the cider made therefrom was in high esteem; but towards



Fig. 64.—Mr. T. A. Knight.

the latter part of the last century the trees of the most esteemed sorts, which had been enlorged by the county poet Philips, became gradually less productive, their vitality being nearly exhausted. Still the old practice of grafting young stocks with the debilitated shoots of these trees generally prevailed, till Mr. Knight, after a long course of interesting experiments, satisfied himself that there is no renewal of vitality by the process of grafting, but merely a continuation of declining life, and that young grafted stocks soon became as much diseased as the old parent trees. He then commenced a course of experiments by fertilising the blossoms of some hardy Crabs or Apples with the pollen taken from the flowers of the most celebrated dessert and cider fruits, and sowing the seeds thus artificially impregnated. From that time Mr. Knight was looked up to in this country as a vegetable physiologist of a high order, a character which he ably sustained by various experimental researches into vegetable fecundation, the ascent and descent of sap in trees, the phenomena of germination, the influence of light upon leaves, and a variety of similar subjects. In 1797 he published a small work called "A Treatise on the Culture of the Apple and Pear, and of the Manufacture of Cider and Perry;" in which he recommends raising new kinds from seed, and suiting the sorts produced to the peculiarities of soil and climate, which are found to have so great an influence on the quality of cider. Mr. Knight did not confine his experiments to the improvement of the Apple only, but he raised many Pears most valuable for the dessert, and so hardy as not to require the warmth and shelter of walls, and consequently capable of being cultivated by every farmer and cottager in the country. His seedling Plums, Strawberries, Nectarines, and Potatoes are also of great value, and an important addition to the luxuries and necessities of life.

The great object of this distinguished man seems to have

been in all cases utility. It was chiefly to questions which he thought likely to lead to important practical results that his attention was directed, and the numerous papers communicated by him to the Transactions of the Horticultural Society, in the chair of which he succeeded his friend Sir Joseph Banks, have all this distinguishing feature. No one who has traced the progress of horticultural skill for the last twenty or thirty years can be ignorant that it is mainly due to the writings and practice of Mr. Knight; he was probably the best practical gardener of his day. It is, however, not a little remarkable that with so very extensive a knowledge of the facts of vegetable physiology, he should have been so unfortunate, as he certainly was, in many of his explanations of them. This arose no doubt from his unacquaintance with vegetable anatomy, and consequently with the minute means by which Nature brings about her results in organised matter. Mr. Knight's experiments were not confined to vegetable physiology. He was a close observer of the habits of animals, and one of his last communications to the Royal Society was on the subject of animal instinct. At a late period of his life he also made some attempts to improve the breed of draught horses, by crossing the large London dray horse with the strong and compact Norwegian mare, the result of which was not ascertained at the time of his death, but was expected, from the appearance of the colts, to be attended with success. He died in London on the 11th of May, 1838, in the eightieth year of his age.

### APPLES.

I LIVE in an Apple-growing county, Devonshire, and can truly say if you go to a grower he often gives his trees some high-sounding name, while what you buy turns out worthless. As a man cannot expect to plant often during a lifetime, this carelessness about names and kinds is much to be regretted.

Some Apples in our older orchards excel the new kinds which are much cried up. Among them are the Priory, the Buffcoat, the Onion Apple, and others. Truth in names and kinds seems to be a desideratum. It seems to me the Apple, as being among the best-flavoured as well as nutritious of fruits, is well deserving notice; and as the food question gains ground I should not be surprised to see this fruit take an important position.—T.

### ROSES ON A NORTH BORDER—CUTTINGS.

I SHOULD certainly advise "St. EDMUND" to transplant his "own-root Roses" from the north border where they at present are to a more genial soil with a sheltered aspect, say south or east; if he has not a wall some sort of fence or shelter should be made to protect them. This is by far the best time for transplanting, as the Rose trees become half established before severe weather sets in. I should plant them in rows about 15 inches apart.

Certainly no other kind of plant should ever be suffered to grow near dwarf Roses. I should not recommend him to take his two Tea Roses indoors for the winter. I do not at all approve of moving Teas more than is absolutely necessary. Perhaps his soil is too heavy for Teas. If so he had better lift them and place a compost of turfy loam and old hotbed manure on the bed that he means to fill with Teas, prune the roots, and plant with care. If these two Teas are on the Briar he must be careful not to plant them too deep. *Souvenir d'un Ami* is a capital grower here, but I know nothing of *Madame Falcot*, except that her eyes are exceedingly large and that she is perfectly worthless as an exhibition Rose, but her buds are most valuable for bouquets or button-hole flowers.

In reply to "IRIS" about "putting in Manetti" cuttings now, taken "from standards budded in August," I never heard of a Manetti cutting from a standard Rose, and so cannot possibly advise. A standard Manetti is like a Cornish chough, a thing I have never seen. With regard to cutting-back late-budded Roses close to the bud I think "IRIS" is wrong. He should leave about 3 inches above the bud until the spring. If he does not do this the frost will possibly injure the bud.

—WYLD SAVAGE.

### AMERICAN BLACKBERRIES.

HAVING brought these to the notice of our readers, and having some inquiries relative to their culture, we extract the following from "The American Horticulturist."—The longer Blackberry canes are unpruned the shorter will be the laterals

and the smaller the fruit. To obtain the largest-size berries, and the largest quantity too, cut back the leading canes to not exceeding 4 feet in length, and shorten in also the lateral branches. In July the young wood, which by that time has grown over the tops of the old bearing canes, should be clipped, especially the lateral branches. This will have a very good effect on the following year's crop.

### DIOSPYROS KAKI.

THE generic name affirms that it is a fruit fit for the gods, which is more than the usual exaggeration, for although its bright yellow colour is showy, it is not so good in flavour as a moderate Plum.

The tree is of middling size, and a native of Japan. Mr. G. F. Wilson has obliged us by writing as follows:—

"We bought a few plants of *Diospyros Kaki* at a sale. Two have thriven; one bore fruit this year for the first time. A visitor who had lived long in Japan told me that the fruit was esteemed there, and that if the plant was allowed to carry too much the fruit would almost all fall before ripening. It seems

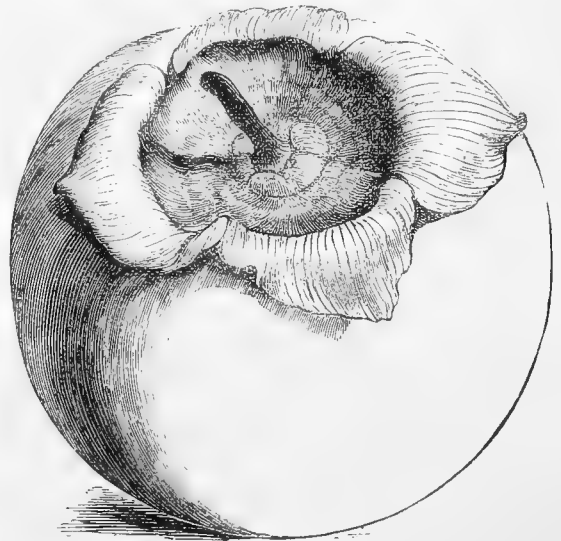


Fig. 65.—*Diospyros Kaki*.

a prolific bearer; after considerable thinning our small tree in a pot in the orchard house bore eleven fruit. As to the edible qualities of our particular species grown in this country I do not think anyone would wish to taste twice; without being bitter the fruit is intensely astringent. I have seen a number of friends at table twisting their mouths as if they had swallowed a lump of tannin. I should not be surprised if the fruit is found to contain a new valuable astringent principle. A friend to whom I mentioned this, and who has lived long in Australia, said they obtained there an extract from the Gum Tree used as a specific in diarrhoea."

### ROMNEYA COULTERI.

WE have been gratified this week by seeing at Glasnevin the first flowers expand of the singular Californian *Papaveraceous* plant, *Romneya Coulteri*. This is, for several reasons, a very remarkable plant; and for none more so than for its departure from the typical characters of plants belonging to the order *Papaveraceae*, a near approach to those of *Nymphaeaceae* on the one hand, and *Sarraceniaceae* on the other, thus, as it were, forming a sort of intermediate or connecting link between those three natural orders.

*Romneya Coulteri* is a strong-growing, much-blanching plant, with pinnatifidly lobed glaucous foliage. The flowers are large, nearly equalling in size those of the white Water Lily; colour pure white. Each flower is composed of three sepals and six petals, the latter alternating with each other. The stamens are very numerous; anthers golden yellow. The ovary, which is nearly sessile, is dark-coloured at the base, and internally is divided into several distinct compartments, the ovules, or young seeds, being spread over the entire surface of



the dissepiments. This must, no doubt, be a very showy plant in its own country, as it is apparently very floriferous; but it is doubtful if it will be so valuable in these isles, when the summer heat is not sufficiently powerful for perfecting its growth and fully developing its flowers before our early autumn chills affect it. The plant which has just opened its first flowers in the open border at Glasnevin, and is somewhere about 4 feet high and 3 feet through, with numerous lateral branches, each, as well as the terminal branches, bearing a flower bud at the point, was received by Dr. Moore only last March, and then, we believe, a mere cutting. From this it will be perceived it is a vigorous free grower. The flower that has expanded is the one on the main stem, but it appears to be doubtful, owing to the lateness of the season, if those on the laterals will follow suit. The decorative value of this plant for the mixed border will not be rightly tested until the coming year, when it can be seen if, with the aid of the slight protection which Dr. Moore contemplates, it will be sufficiently hardy to stand our winters, and, with an early start, be able to reach the flowering period while the sun is still powerful. If so, it will be a valuable acquisition.

We have felt constrained to go more into particulars with regard to this plant than we otherwise would by reason of it being so identified with three very distinguished Irishmen. It was first described and the genus founded by the late Dr. Harvey, Professor of Botany in Trinity College, Dublin. The generic name commemorates one of the most gifted of our countrymen—namely, Dr. Romney Robinson of Armagh, whose fame is world-wide; and the specific name that of the late Dr. Coulter, also a professor in our University, and well-known in all the scientific circles of Europe for his botanical attainments, and after whom the leguminous genus *Coulteria* is named. It was he, too, who, during a lengthened residence in Peru, made Cacti a special study, and sent thence to the University Botanic Garden the largest collection of these singular plants ever sent by one man to Europe.—(*Irish Farmers' Gazette*.)

### HARDY ANNUALS.

I ENDORSE what "H. S." says on page 401 respecting hardy annuals for spring flowering, but I think that he is in error when entertaining the idea that our pets are only cared for in large establishments. They are growing in favour, and I expect they will continue to do so. To those "H. S." enumerates I add *Collinsia grandiflora*, for in the spring this lovely flower will vie with any other spring-flowering annual. *C. bicolor* does us good service, too, in bed and border; the plants are in their places now. *Gilia tricolor* stands well through the winter, and flowers early. *Nemophila insignis* is a useful plant for early spring work. *Limnanthes Douglasi* is one of the hardiest of the annuals, and is a fine plant when well grown. *Sphærogyne speciosa* should have a place in all spring gardens. *Linaria bipartita* does us good service as a hardy annual in the spring, but in my estimation *Veronica syriaca* eclipses them all. I set this down as the gem of gems for early spring work, and no kind of weather appears to affect it.

These annuals cannot be had without labour, but it is pleasant labour to prepare for cheerful spring. To grow them well they require sowing the latter end of August. When ready they should be pricked out, and subsequently be moved with balls into their winter quarters as early in October as possible. I find it good practice in very severe weather to stick a few evergreen branches among them, taking away the branches when the severity of the weather is past, and on dry days stirring the surface of the ground among the plants is very beneficial.—A LOVER OF HARDY ANNUALS.

### PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**ANTHURIUM BAKERI.**—"The vast genus *Anthurium* contains upwards of 180 species (as enumerated by Schott in his 'Prodromus'), all natives of tropical America, and of which between fifty and sixty were known to that author in a living state, chiefly from specimens grown in the rich collection at the Imperial Palace of Schenbrunn (Vienna), and obtained principally by himself. At Kew, which is also rich in tropical Aroids, nearly one hundred species of this genus are now in cultivation, forming one of the principal ornaments of the Aroid house, where, for number of species, beauty and variety of form of foliage, they dispute the palm with the Philodendrons. They are plants easy of cultivation if supplied with shade,

moisture, and a high temperature, and being remarkably free from insect pests they are well adapted for stove culture.

"A. Bakeri was imported from Costa Rica by Mr. Bull, who presented it to the Royal Gardens, where it flowered first in June, 1872."—(*Bot. Mag.*, t. 6261.)

**MASDEVALLIA IONOCCHARIS.**—"M. ionocharis is one of the smaller species of the genus, and is remarkable for the bright colouring of the flowers that are abundantly produced in autumn. It was made known by Dr. Reichenbach, who published it from specimens discovered by Mr. Davis in Peru, and flowered by Messrs. Veitch in the Royal Exotic Nurseries, to whom the Royal Gardens are indebted for the specimens here figured, which flowered in September, 1875."—(*Ibid.*, t. 6262.)

**LIBERTIA PANICULATA.**—"A very elegant and free-flowering greenhouse plant, which has been long cultivated at Kew, having been raised from New South Wales seeds. It flowers early in spring. The genus to which it belongs is confined to Australia, New Zealand, and extra-tropical South America, and contains only three or four species; it is thus one of several instances of a close botanical relationship between these distant countries."—(*Ibid.*, t. 6263.)

**FRITILLARIA RECURVA.**—"In colour this is the finest of all the Fritillaries, the red being as bright as that of a Lily, and intermixed, especially in the inside of the flower, with bright yellow. It is a native of California, and belongs to the small group of Fritillaries with Lily-like bulbs. It was first described by Mr. Benthham from specimens gathered in 1848 by Hartweg on the mountains of Sacramento, and has since been collected by Fremont, Jeffrey, and many others. We first received specimens cultivated in Europe from Max Leichtlin, Esq., in 1870. Our stock at Kew was received in 1875 from Mr. Sargent of the Botanic Gardens at Harvard. In England it flowers early in May, or at the latter part of April."—(*Ibid.*, t. 6264.)

**ODONTOGLOSSUM LEVE.**—"One of the earliest introduced species of the genus, having been sent to England from Guatemala by both Mr. Skinner and Hartweg, and having flowered in the Horticultural Society's Gardens early in 1842. O. leve has flowered at Kew repeatedly; for the first time in June, 1864, from plants imported from Guatemala. It is very fragrant."—(*Ibid.*, t. 6265.)

**NECTARINE.**—*Albert Victor.*—"We are indebted to Mr. Coleman, gardener to the Earl Somers, at Eastnor Castle near Ledbury, for the specimen of this remarkably fine Nectarine. No man has shown himself more worthy of being listened to when speaking of fruits and fruit-culture than Mr. Coleman, and that he entertains a very high opinion of this Nectarine, the following note, which he has kindly communicated to accompany the figure, will show:—

"This fine variety, raised by Mr. Rivers, is well worthy of general cultivation. I have fruited it four years, and find it is a good grower, a free setter, and swells its fruit to a large size. In point of ripening, it comes in a few days later than Elruge, and hangs a long time after it is ripe, when the flavour, always good, becomes delicious. Planted out and trained under glass or against a wall, I am of opinion that this will become one of the finest Nectarines in cultivation, fit for the choicest dessert, and indispensable to the exhibitor.—W. C."

"This grand variety appears to have been raised by Mr. Rivers from the Prince of Wales Nectarine, and is a large and handsome fruit, belonging to the group with small flowers and round glands."—(*Flor. and Pom.*, 3 s., ix., 241.)

### NOTES AND GLEANINGS.

At the annual meeting of the members of the DARLINGTON GARDENERS' INSTITUTE the Secretary read the following report, which was adopted:—In presenting the third annual report of the Gardeners' Institute, the Committee congratulate the subscribers on a satisfactory increase in their number, and also in their income, though owing to the expenses incurred in the removal of the Institute to more convenient premises they are unable to report any balance in hand. They are glad, however, to report that the subscriptions have fully covered expenses. Papers have been read by the following gentlemen:—Mr. Richardson, "What to Read and How to Read It;" Mr. Wrather, "The Cultivation of the Rose;" Mr. Wand, "Tricolor Geraniums;" Mr. Casson, "Fumigation;" Mr. Shaw, "The Strawberry;" Mr. Burrell, "The Gladioli;" Rev. C. King, "The Leaf—botanically, &c.;" Mr. Helier, "Stage Pelargoniums;" Mr. Casson, "The Flow of the Sap." The Committee are glad to report that those readings have

been numerously attended and much appreciated, and the cordial thanks of the Institute are due to the gentlemen named for their kindness, and they express a hope that those readings may continue. They also report and gratefully acknowledge the gift of a valuable microscope from Mr. J. W. Pease, M.P. Twenty-one meetings for the inspection and naming of fruits and flowers have been held, and those meetings have been useful, interesting, and instructive. A sub-committee have during the summer season held several open-air concerts, through the kind permission of the owners, in the grounds of West Lodge, Polam, and Woodlands. The balance sheet showed the receipts and expenditure amounted to £61 6s. 11d.

THE Crystal Palace Company are announcing as a prominent attraction their collection of CHRYSANTHEMUMS now arranged in the central transept. The display is an excellent one, and is deservedly admired by large numbers of visitors. The plants are arranged in front of the orchestra, and occupy a space of 50 yards in length by 4 to 6 feet in breadth. They vary from 3 to 8 feet in height, and are composed of the best of the large-flowering and Pompon varieties. They are in excellent health, having good foliage and many "exhibition" blooms. Especially fine are White Globe, Empress of India, Aurea Multiflora, Dr. Sharpe, Golden Beverley, Mrs. G. Rundle, Pink Perfection, Prince of Anemones, Jardin des Plantes; and attractive by their rich colours are Cardinal Wiseman, Oliver Cromwell, and Progne. The most noteworthy of the Pompons is Model of Perfection. The exhibition will continue for some time longer, Mr. Thompson having hundreds of plants in reserve in one of the corridors. It is the best display of its kind that has been seen in the building.

— We have recently seen with what good reason Mr. Luckhurst occasionally refers to the profitable nature of ESPALIER FRUIT TREES. His father has for a term of about forty years been gardener at The Mote, near Maidstone, the estate of Lord Romney, but now in the occupation of Lady Howard de Walden. The trees which Mr. Luckhurst, sen., planted in that garden thirty years ago are now remarkable "hedges," fringing the walks of the fine kitchen garden, and even during the present season the crops of fruit produced by these trees have been very good. The espaliers are about 5 feet high and are nearly "self-supporting"—that is, only a stake here and there is required to support the branches. They are not formally trained horizontal cordons, but in reality are hedges of Apple trees bristling with spurs and producing annually superior fruit—such crops as no other system of culture could produce on the same limited space, and with the same small outlay in labour which is necessary to keep the trees in order.

— UNDER the able superintendence of Mr. F. Bause, MR. WILLIS'S NURSERY at ANERLEY resembles the Belgian plant manufactories. By rapid propagation Mr. Bause has crowded the several houses with new and valuable plants, the *Dracænas* alone numbering about ten thousand. Another extensive batch of seedlings has just been pricked out in a hundred pans each containing about a hundred plants. The beautiful *Yucca filamentosa variegata* continues to be increased in the same successful manner that has been previously noticed. Ferns are raised from spores apparently as freely as are Mustard and Cress from seeds. Pitcher-plants are numerous and fine. Anthuriums, not only *A. Scherzerianum* but *A. crystallinum*, are growing from seeds like Radishes, and *Lapagerias* are being struck from cuttings in large batches. Altogether the nursery is in capital order, and possesses many features of interest to propagators and those identified with the increase and cultivation of new and popular plants.

— AN American writer informs us that WRAPPING THE STEMS OF TREES for an inch or two below the ground to a foot or two above with coarse brown paper, bass bark, or old sacks of any kind, after which smearing the outside with coal tar, will prevent the depredations of rabbits, mice, and similar vermin.

— A PLANT of the greatest value for winter decoration is *LASIANDBA MACRANTHA FLORIBUNDA*. It is a dwarf form of *L. macrantha*, and was found in Brazil by the late Dr. Seeman. The great usefulness of this plant is, that it produces its splendid violet-blue flowers in profusion when in quite a small state—that is, cuttings struck in the spring form plants which flower freely during the following winter. We have recently noticed plants about 6 inches high and growing in 5-inch pots, each plant showing six to twelve flowers. These plants were grown in frames during the summer, and will shortly be worthy of being associated with dwarf Poinsettias, and

it will not be easy to determine which are the most effective, the brilliant scarlet bracts of the one, or the large rich violet flowers of the other. This dwarf *Lasiandra* is recommended as meriting extensive cultivation.

— ONE of the sweetest of Orchids is *BURLINGTONIA FRAGRANS*; its perfume may be described as that of May blossom intensified. This plant was recently flowering—indeed, it appears to be almost always in flower—in the collection of Mr. Bull at Chelsea. The plant is growing on a block, and its pendulous racemes of delicate bluish-tinted flowers are very attractive. It is a most enjoyable Orchid, and worthy of a place in all collections of stove plants.

— WE are informed that the ROYAL HORTICULTURAL SOCIETY OF IRELAND'S winter Show, which was held on the 9th inst., was an excellent one. The principal feature was the Grapes exhibited by Mr. Roberts, gardener to the Countess of Charleville. The variety was *Gros Guillaume*, three bunches weighed in the aggregate 45 lbs. The weight of the largest bunch was over 16 lbs., the other two weighing 15 lbs. and 14 lbs. respectively. Each bunch was well finished, and they were altogether most praiseworthy examples of cultural skill.

— ALTHOUGH the system of growing WATERCRESSES in POTS has been frequently mentioned, that mode of culture is not by any means generally adopted. Yet nothing can be more easy of being carried out, and a supply of sweet and quickly grown "Cresses" may be had throughout the winter by all who will pot a few plants and place them in any heated structure. The roots should be placed closely together in 6-inch pots, using rich soil and potting lightly. The pots should then be placed in deep saucers of water on a shelf in any moderately heated structure. We have lately seen some productive pots of Watercresses at Munster House, Fulham, and Mr. Pithers the gardener, spoke in high terms of the simplicity and usefulness of this mode of culture.

— WE have to-day (November 14th) seen a further supply of STRAWBERRIES from Rabley. The fruit was perfectly ripe, medium-sized, and well coloured. The plants producing this fruit were forced last year, and afterwards planted in the open ground: on showing trusses in the autumn the plants were again potted, and two hundred of them are now in full bearing, and very valuable.

— WE omitted to notice in our report of the last meeting of the Fruit and Floral Committees that a gold medal was recommended to be given to Mr. Ollerhead for Orchids, and a similar award to Mr. Ross, Welford Park, Newbury, for four Smooth-leaved Cayenne Pine Apples weighing respectively 7 lbs. 4½ ozs., 8 lbs. 5 ozs., 9 lbs. 2½ ozs., and 10 lbs. 5½ ozs. The suckers which produced these fruits were potted in 6-inch pots in June, 1875, and shifted into 11-inch pots in April, 1876.

— MR. JUDD, late of Oxtou Hall Gardens, has been appointed gardener to the Earl of Warwick, Warwick Castle. Mr. Phipps, late of Ingestrie Hall, succeeds Mr. Scammell at Bowood; and Mr. Edwards, late Superintendent at the Regent's Park, is succeeded by Mr. Brown from Hampton Court.

— MR. G. DAWSON, after alluding in the *Irish Farmers' Gazette* to the annoyance caused by SLUGS in nibbling Mushrooms when in a small state, writes, that "about 2 inches thick of the roughest sawdust to be had, put all over the beds, proved the best protective we ever tried both against woodlice and slugs. Neither of them likes to travel over dry sawdust. And Mushrooms before fit for use, are sure to push up quite enough through the sawdust to let a person know where they are; indeed, they generally throw themselves right above the sawdust before they are of the size of a crown-piece. Should the beds require to be watered, it is best to clean the sawdust completely off, then water according to need; let the surface dry as much as possible before returning the covering, as the sawdust, to do good service, cannot be overdry."

— THERE was again a very full attendance of members at the usual monthly dinner of the HORTICULTURAL CLUB at their clubhouse, 3, Adelphi Terrace, on the 8th inst. The Hon. and Rev. L. T. Boscawen presided. Much interesting discussion took place after dinner, especially in reference to the Royal Horticultural Society and Mr. G. F. Wilson's efforts for its revival. Mr. W. Wood of Maresfield and Mr. Andrew Henderson of Pine Apple Place were elected members. The next dinner (which will be the anniversary) will be on December 6th.

— MR. ABBEY sends the following corrected mode of compounding the INSECTICIDE which he recommended on page 401

as being fatal to insect life, and a valuable dressing for fruit trees:—"Take of soft soap half a pound, to which add a wine-glassful of spirits of turpentine, mixing thoroughly with the soft soap, forming a paste. Have ready boiling tobacco juice and add a little at a time, and stirring so as to incorporate the whole. If the whole of the tobacco juice can be added without the soft soap and spirits of turpentine being made to clot or curdle it will not afterwards become separated, and is ready for use at any temperature below 120°. If, on the other hand, the tobacco juice causes the soft soap to be separated or refuses to combine with the tobacco juice, clotting taking place, only add tobacco juice so as to render the separation complete. In some cases the soft soap and spirits of turpentine will not combine with more than a quart or less of tobacco juice. When the clotting takes place we have the quantity of tobacco juice required, and we make up the quantity short of half a gallon with boiling water, thereby effecting a thorough combination of the ingredients."

— We are informed that at the GLOUCESTERSHIRE ROOT, FRUIT, AND GRAIN SOCIETY'S SHOW there was an unexpectedly good collection of roots of excellent quality; the fruit was fine, if not so specially remarkable as at some previous exhibitions. A small though exceedingly good collection of Grapes was sent by Earl Ducie and Mr. Gambier Parry; and the place was made bright and cheerful by groups of Chrysanthemums and baskets of flowers and ornamental plants. The class for twelve of Wheeler's Golden Melon Mangolds, for which special prizes of ten guineas were given, deservedly attracted much attention. All the specimens exhibited were large, heavy, clean, and well-shaped.

— An American writes as follows on DISSOLVING BONES:—"I have a large water-tight hoghead standing outdoors near the kitchen. In the spring I cover the bottom about 6 inches deep with dry soil. On this I put a layer of bones of about the same depth, and cover them entirely with unleached ashes. On these another layer of bones, then ashes, and so on till the hoghead is full. I leave it then exposed to the rains all summer and winter until the next spring. Then, on removing the contents of the hoghead, I find nearly all the bones so soft that they will crumble to powder under a very slight pressure, and, mixed with the ashes and the soil, they give me a small pile of most valuable manure ready for immediate use. Any of the bones not sufficiently subdued I return to the hoghead again for another twelve months' slumber. In this way I have had no difficulty in transforming all the bones I can get into bone meal. I buy them directly from the butcher for the purpose of turning them thus into manure, and consider them the cheapest fertiliser I can obtain."

— THE CARNOUBA TREE of Brazil appears to be a vegetable of some value, and, if the half that is told of it is true it should be cultivated wherever it can be made to thrive. It is a species of Palm, and flourishes without culture at Bahia, Rio Grand do Norte, and other well-known localities, resists drought, and always appears green and luxuriant. Its roots possess properties similar to those of the Sarsaparilla. The trunk furnishes a superior fibre. When the tree is young it yields wine, vinegar, a saccharine matter, and a species of gum closely resembling sago. Its wood is excellently suited for the manufacture of musical instruments, as well as for tubes and conduits for water. The pulp of the fruit is very palatable, and the oily nut roasted and pulverised is a good substitute for coffee. The trunk also yields a flour similar to maizena. With the straw, hats, brooms, and baskets are made, and over half a million dollars' worth of it is exported to England yearly. Lastly, a wax used in the manufacture of candles is extracted from the leaves.

— The late Mr. EDWARD GEORGE HENDERSON, whose death was announced in our last issue, was the eldest son of Andrew Henderson, the founder of the Pine-Apple Nursery. Mr. E. G. Henderson at the beginning of the present century commenced business on his own account at the nurseries in Edgware Road, known as Vine Place. In those days fruit-growing not being nearly so extensively carried out in private places as at the present time, both Pine-Apple Place and Vine Place Nurseries were, in addition to the culture of popular plants, greatly devoted to the culture of fruit, which was supplied in large quantities to the nobility and gentry in and around London; but it was a well-known fact that the Pine-Apple Nursery produced the best Grapes and the Vine Place Nursery the best Pine Apples. About forty years ago he left the Vine Place Nursery and removed to the Wellington Road, at which esta-

blishment he continued to cultivate an extensive and varied collection of plants until about twelve years ago, when he retired from taking an active part in the business.

— We regret to announce that Mr. THOMAS PATERSON died on the 12th inst. at the Royal Horticultural Gardens, Chiswick. He was forty-two years of age.

— NOTWITHSTANDING all researches and efforts, says the *Annales Industrielles*, the terrible insect PHYLLOXERA continues and extends its ravages daily. All our Vines are now menaced with an invasion by it. Ascending by the valley of the Rhone, it is now on the point of reaching our large vineyards of Burgundy; and in the west, having invaded the whole valley of La Garonne, Le Bordelais, Les Charentes, it has suddenly made its appearance even in the Loiret, in the heart of the magnificent nurseries which are the fortune of the environs of Orleans. It is not (this writer continues) that we have not numerous means for destroying it, and we have no fear for the vineyards that produce the better Vines of France; their value is sufficient to meet the expense of suitable treatment. What we are far from possessing yet is a treatment economical enough to be applied to the Vines of less value, which produce only *vins ordinaires*. Thus the sulphide of carbon and alkaline sulpho-carbonates, now largely used, succeed perfectly; but these substances are still too high in price, and their application involves expense for manual labour, which can only be supported by vineyards whose yield is of high value.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

We have sowed Peas on a border facing south. The ground was very dry, and the drills were drawn in the usual way. The Peas were wetted with a carbolic solution, which is said not only prevents the attacks of mice but also of sparrows when the plants come through the ground. If this is so it will be a great boon to us, as sparrows are a much greater pest than mice. In wet soils some growers recommend sowing the seed on the surface of the ground and drawing the soil over them to the depth of about 3 inches. Others draw the soil up into ridges about a foot high, and sow on the top of the ridges; but this last plan can only be recommended when the district is very wet indeed. Beans may also be planted now for the earliest crop.

After clearing away the stalks and outer decaying leaves from Artichokes, the surface of the ground should be covered with stable litter to the depth of 9 inches or a foot. This is a very good protector from frost, or the same material may be used mixed with an equal quantity of decaying leaves. We have never used spent tan after it is no longer useful for producing bottom heat in tan beds, but have heard that it is well adapted for protecting the plants from frost. All the late Celery ought now to be secured from frosts by earthing it up in fine weather. A covering of littersy manure may be placed over the soil to keep frost out of it.

Admit air to Cauliflower plants in hand-glasses and frames, only letting the lights remain on during very severe frost. The lights may be tilted as much as possible in wet weather, but the plants must not be exposed to the rain. Those who have not yet pricked-out their plants should do so as soon as possible. All decaying leaves should be removed from recently-put-out plants, and the soil be lightly forked over between the rows, and all weeds removed.

We have removed the old leaves from Seakale plants which are intended to be forced, and should the plants not be taken up and potted, which is our usual method, the ground will be covered over with rough manure, so that the plants may be easily dug-up should severe frost set in. It is a good plan to cover-up the crowns of all old plants either with ashes or manure preparatory to covering the beds a foot or 15 inches thick with leaves.

The treatment recommended for Celery is applicable to Cardoons, which must be finally earthed-up and protected from frost. Some good growers of Cardoons recommend that they be not earthed-up at all, but that some straw be placed in an upright position against the plants, and be kept in its place with hay or straw bands.

It is quite necessary that all winter-growing crops be kept free from weeds. The weather has lately been excellent for allowing the Dutch hoe to be worked amongst rows of Onions, Lettuce, Cabbages, &c. Lettuce plants in frames or anywhere under glass require plenty of air. In fine weather the lights must be entirely removed, and be tilted in wet weather. In frosty nights the frames must be kept close. Remove all decaying leaves, and loosen the soil between the plants.

Let the kitchen garden be kept neat and free from all decaying

vegetable matter. The stalks of Cabbages, Broccoli, Cauliflower, &c., should be carried to the vegetable refuse heap. All vacant ground should be dug or trenched as quickly as possible, so that it may be ready for the beneficial influences of winter frosts.

#### VINERIES.

We have but little to record of our own doings this week. All the early houses are ready for forcing, and where there are no plants the lights and front sashes are open night and day. There is considerable advantage in having vineries either early or late devoted to the Vines and nothing besides. There is no apparent harm, perhaps, in having the houses closed at night and the frost merely kept out, but even if there were no other evil it must be better to allow a free circulation of air on all occasions. Much injury is, however, likely to result both from watering the plants and keeping out frost. The ground beneath plants requiring much water becomes a puddle when it ought to be comparatively dry; then, in keeping out the frost, the temperature is often raised as much as 10° higher than is necessary, 45° being registered when 35° is better for the plants and would do no injury to the Vines. In our houses, where it is necessary to place plants over the borders, saucers are placed under the pots to hold superfluous water, but the pots must on no account stand in the water. The best plan is to invert a pot underneath that containing the plant. The saucers are emptied when they become full.

Late vineries where fruit is hanging must be ventilated as freely as possible, and artificial heat should be applied to keep up the temperature to 40° at night. If frost should gain admittance the Grapes will damp off rapidly.

Questions are frequently asked in reference to the formation of Vine borders. Much has been written and published in the pages of this Journal on that subject. Elaborate composts have been recommended, as well as instructions given on excavating, concreting, draining, &c., and many amateurs fancy that without all this trouble good Grapes cannot be obtained. Now, when good turfy loam can be procured in abundance and money is no object, let a good border be made by all means; but when loam has to be purchased at a guinea a ton, as is the case about London, it is but few that will use it for Vine borders. Good garden soil enriched with decayed manure and crushed bones will grow Vines well, and Grapes will be produced whenever the wood is strong and well ripened. Good drainage is necessary, as Grape Vines will not do well in soil where water is stagnant. The present is a good time to make Vine borders, and they ought to be left exposed to the winter's frosts, the Vines to be planted in March.

*Strawberries for Forcing.*—Ours are yet exposed in the open ground, as it is not convenient to store them in the orchard house until it is partly cleared of Chrysanthemums. We used to store them in frames at considerable inconvenience until the house was ready early in December, but we have found that the plants remain in a more healthy condition if left out of doors. They suffer nothing from frost, and if too much rain falls it is easy to lay the plants on their sides. The leaves hang over the sides of the pots and throw off much rain as well as protect the roots from frosts. We shall place the first lot of Black Prince in the earliest vinery to start them about the end of the month. Sometimes it is not convenient to place the pots in the vinery, and it is not well to move them from a cool house to the temperature of a Pine house all at once. We have in such a case made up a hotbed and plunged the pots in a gentle bottom heat to excite root-action.

#### PLANT STOVE AND ORCHID HOUSES.

It is now a good time to see that all plants are thoroughly cleansed from scale, mealy bug, thrips, &c. Our time has been occupied with such work during the last week or two. At this season everything ought to be kept clean and neat in all the houses, and flowering and foliage plants be arranged to the best advantage. As all the winter-flowering species and varieties of Calanthe lose their leaves while they are in flower, the best arrangement is to place the plants amongst the green leafage of Ferns. The pretty little Indian Crocuses (Pleione) has also a charming effect at present, but it also is bare of leaves. Its flowers open before the leaves appear. A charming plant at present in the warm house is an autumn-flowering variety of *Dendrobium formosum*. This fine *Dendrobe* may be classed amongst the "bridal" Orchids; its pure white flowers with a pale yellow lip are very effective for bridal bouquets. The plant is not often grown well, yet it is of easy culture. It will not thrive in a pot, nor well in a basket if too much peat or sphagnum is placed in contact with roots. Our plants have made strong healthy pseudobulbs with nothing but potsherds in the baskets. We hang the baskets up near the glass in a temperature of 65° at night, and the roots make vigorous growth all round the woodwork. *Laelia anceps* and varieties of it are handsome Orchids for flowering in winter. The variety *Barkerii* is much finer than the species, and *Dawsonii* is not only very beautiful, but it is not easily obtained. We have seen a plant of it sold at Stevens's rooms with only two leading growths for

£42. The plants are now throwing up their flower spikes, and it is necessary to watch at night to see that no straggling slug eats the stalks in two. All Orchids require careful attention during the winter season; although most of them are at rest, it will not do to neglect them. Deciduous plants may be kept without water during most of the winter, but all the evergreen species must have sufficient moisture to prevent the pseudobulbs from shrivelling.

#### FLOWER GARDEN.

The recent cold weather has quite destroyed all the summer-flowering plants, and they have been carted out to the rubbish heap. The beds have been cleared from weeds by raking the ground over. The old beds of Phloxes which have been planted two years have been destroyed, and young plants will be put in their places when the ground has been trenched deeply and well manured. The Phlox delights in rich soil, and young plants should not be planted on the same ground where old plants have been previously if it can be avoided. Herbaceous borders require to be hoed or lightly forked over if the plants are not too closely together. Some enthusiasts say, "Do not disturb your herbaceous border in the autumn, and allow all the leaves that fall from the trees to remain on it." This is, we fancy, a slipshod style of gardening. It is evident that a covering of dry leaves would be useful to protect any tender plants from frost, but it is doubtful if they would fall or be blown on the right spot. They would rather gather round the crown of some very hardy plant, and the small or more exposed tender subjects might be open to the biting blast. Mr. Matthews of Weston-super-Mare, exhibited some bottomless seed-pans at South Kensington last week, which would just answer the purpose of protecting choice and tender plants. By placing one of those over the plant and a square of glass over the pan the object would be attained. The glass would admit light while it defied the entrance of wet, and frost would be kept out to a certain extent. Failing these some cocoa-nut fibre refuse would keep off much frost.

Auriculas require to be looked over weekly to destroy green fly and have all dead or decaying leaves removed.—J. DOUGLAS

#### TRADE CATALOGUES RECEIVED.

Kelway & Son, The Royal Nurseries, Langport, Somerset.—*Catalogue of Gladioli.*

John Harrison, Leicester.—*Catalogue of Select Roses and Fruit Trees.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

BRIXTON HILL (Chrysanthemums). November 17th and 18th. Mr. G. Goldfinch, Sec.

LOUGHBOROUGH (Chrysanthemums and Fruit). November 21st. Mr. John West, Chapman Street, Loughborough, Sec.

BIRMINGHAM. November 22nd and 23rd. Mr. J. Hughes, Monument Place, Parker Street, Edgbaston, Sec.

LEEDS. November 24th and 25th. Mr. George Hemming, Hon. Sec.

ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (J. C. W.).—We have no "Stove Manual," but our "Indoor Gardening" (1s. 6d.) and "Heating Manual" (6d.) include stove management.

BATTY LANGLEY.—The Editors wish to purchase, or would be obliged by the loan of, the engraved portrait of this writer on architecture and gardening. They require it to be copied by their wood engraver.

GARDENERS' TRAVELLING EXPENSES (V. S. P.).—The rule is that the employer pays the travelling expenses of a gardener coming to a new situation. The employer does not pay the expenses of moving the gardener's wife and family unless he has specially agreed to do so.

LEMON TREE UNHEALTHY (H. F. G.).—We cannot make out what the "bight in the shape of a scab" may be. Probably the tree is infested with scale, which may be removed with a sponge, employing soft soap 8 czs. to half a gallon of water, adding a wine-glassful of spirits of turpentine, syringing the plants with clear tepid water immediately after being freed of the filth, taking care that the solution does not pass down the stem to the roots. If the "scab" be upon the stem of the plant, it will in all probability die. Send us a specimen twig.

CHRYSANTHEMUM SHOW.—"An Amateur" wishes to know if a Chrysanthemum Show is held near Finsbury Park.

CARICA PAPAYA (T. E. D.).—The specimen sent is correct. There is a portrait of the tree in the "Botanical Register," t. 459. The white mites do not injure it; they feed on the decayed part. Your plants die probably because the temperatures are too low, and have too much water. They



require light soil, little water, a high temperature, moist air, and roots undisturbed.

**PROPAGATING MESEMBRYANTHEMUMS (A. Reader).**—Cuttings should be inserted early in March, in a compost of equal parts of turfy loam, sandy peat, and silver sand, draining the pot or pan well, and surfacing the compost with half an inch of silver sand, watering before insertion, and putting in the cuttings six hours afterwards. In a gentle hotbed they will strike freely. Seedlings may be raised by seed sown at the same time, omitting the surfacing with sand, and just or barely covering the seed.

**RAISING MYOSOTIS FROM SEED (Idem).**—Sow the seed next April or early in May in the open ground, pricking off the plants when large enough to handle, and removing them to their flowering quarters in autumn.

**GERANIUM POTS COVERED WITH MOULD (Idem).**—It most likely arises from the soil being too wet and sour. Remove the mould with a stick, loosening the surface of the soil.

**PLANTING ALSTROEMERIAS (A. F. B.).**—Plant the roots now 8 inches deep in good rich soil in an open situation but sheltered, surrounding the roots with a little sand. Pot the bulbs of *Brodiaea grandiflora* at once in fibrous loam, leaf soil, and sandy peat in equal parts, covering them about an inch deep, and keep in a cold pit but protected from frost until roots are plentifully formed, after which remove to the greenhouse or window, or you may plant the bulbs 4 inches deep in a warm border. *Trichonema speciosa* requires to be treated the same as *Brodiaea*.

**EARLY SPRING FLOWERS (C. T., Sussex).**—There are many other good spring bedders besides those you mention. Here are some of them, with heights, colours, and time of coming into flower: *Gentiana verna*, blue, 4 inches, April; *Gentiana acaulis*, deep blue, 6 inches, April; *Hepatica triloba*, 6 inches, February, single and double pink, the same of red, mauve, and blue, and single white; *Iberis corifolia*, 9 inches, white, March; *Dielis spectabilis*, 2 feet, deep pink, April; *Cheiranthus Marshallii*, 9 inches, rich yellow, April; *Aubrietia deltoidea*, 6 inches, lilac, April; *Aubrietia Campbellii*, 6 inches, purple, April; *Arabis albidia*, 9 inches, white, February; *Alyssum saxatile*, 9 inches, yellow, April; *Nemophila insignis*, 9 inches, light blue, April; *Saponaria calabrica*, 9 inches, pink, April; *S. calabrica alba*, white, uniform in height with the pink sort, and flowering at the same time.

**RAISING YOUNG TULIP TREES (Idem).**—Tulip trees are propagated in this country by seed imported from America. It is only in favourable seasons like the present that the seed ripens with us. Sow your seed immediately in pots placed in a cold frame, let the young seedlings remain in pots, plunged in an open border the first year, in order to check their excessive tendency to form tap roots.

**CAMELLIAS WITH FOUL FOLIAGE (L. Shaw).**—Examine the stems and branches closely and you will probably find them infested with scale, the excrement of which being the "filmy black sticky substance" that you are so much troubled with. The inspection must be close, and the cleansing thorough. Do not, however, rest satisfied with a single washing, but repeat it in a week or two, and you will have little subsequent trouble.

**BLACK HEART CHERRIES NOT SETTING (G. G.).**—Cherry blossoms are very susceptible to injury from frosts. You do not say whether your tree is a standard, or whether it is in the open ground or against a wall. In Essex we have Governor Wood and May Duke bearing good crops annually, while we were obliged to grub a number of other good sorts out, including Duchesse de Pallan and Empress Eugénie. You cannot do more to your tree than you have done. Grub it out and plant Governor Wood, which is a fine-flavoured free-bearing sort.

**RAISING STRAWBERRY PLANTS FROM SEED (B. D.).**—We sow our seeds as soon as the fruit is ripe, and place the pots in a cold frame. Some of the seeds vegetate at once, but the largest number of plants do not appear until the following spring, and they form strong plants and produce a crop of fruit the following season. You had better sow your seeds on a gentle hot-bed in March. The Alpines would bear fruit late the same season. They require the same treatment as the other varieties.

**BEDDING GERANIUMS NOT FLOWERING (Idem).**—It is singular that your Zonals do not flower freely, as the treatment you give them is right. What sorts do you grow? Corsair, Wellington, Ianthe, Christine, Mrs. Haliburton, Amaranth, and many others flower freely with us in richer soil than yours. We insert our cuttings about the end of August. If you keep your *Verbenas* free from red spider, green fly, &c., and supply the plants with water during drought they will grow and flower well.

**GLAZING VINERY AND MAKING VINE BORDER (D. P. B.).**—We do not know of any vineries glazed with the roof glass butted. We think you would be able to grow good Grapes by mixing a quantity of turfy loam and crushed bones with your rich garden soil. It is necessary to see that the border is effectually drained.

**GRAPES IN EARLY AND LATE VINERIES (J. A.).**—We do not think Lady Downe's Seedling would be a good stock for an early White Grape. As you already have Dr. Hogg, it would be as well to train a rod of that sort up, and replace Lady Downe's with it; or if you want a Sweetwater, inarch Buckland Sweetwater on one of the Hamburgh rods. Royal Muscadine will bear freely enough if you train up a young rod, and the stronger the wood it makes the more freely it will bear. We cannot advise you to plant another variety for a conservatory.

**HEATING BY PETROLEUM OIL.—"W. L. O."** wishes to know the expense of heating a greenhouse 20 feet by 12 feet by burning this oil in a stove.

**ROSE PLANTING (Alpha).**—The Rose trees now planted do not require watering. Cocoa-nut fibre refuse 2 inches deep will exclude severe frost from the roots.

**WHITE ISCHIA FIG.—"A very old Reader of the Journal"** will be obliged by "K." saying how his trees are trained, and for full information how best to grow Figs for market. In our "Fruit Gardening Manual," price 4d., full directions are given for cultivating the Fig.

**PLANTING RHODODENDRON (South Devon).**—In answer to your query—"Do cattle crop, or rabbits and hares eat, Rhododendrons?" Our reply is that we have thousands of Rhododendrons in variety disposed in groups over about 15 acres of pleasure ground, the Rhododendrons having shoots within reach of horses, cows, and sheep, and hares and rabbits are very numerous, especially the latter, and have free access to the evergreens, yet none of those quadrupeds interfere with the growth of the Rhododendrons. We, however, question the propriety of placing the Rhododendron within the reach of domesticated animals, as a casual partaking thereof may lead to disastrous consequences on account of the narcotic properties of this shrub. We shall

prune ours so as to place them beyond the reach of cattle. Everyone wishing for evergreen growth should plant Rhododendrons. The common varieties are now as cheap as Laurels, and their growth, though not so free, is more dense, having an additional advantage in flowers. They grow in any soil, except sand and limestone, devoid of vegetable matter.

**"BLIND" PRIMULAS (Amateur).**—The trusses you sent us are anything but devoid of flowers; some, indeed, had flowers opened when the box reached us, and those were perfect in style, stigma, and ovary; the opened calyx of the others had perfect pips, and would in due time have developed. The footstalks of the trusses are very weak, and the flowers are the worst we have ever seen. It is usual for the flowers to expand successively, which may have led to your concluding the trusses were blind. Weak liquid manure would improve the size of the flowers, assigning the plants a light airy position near the glass. Your plants are from a poor strain, not worth culture. On comparing the flowers of yours with ours, we find yours are not much over half an inch across, ours averaging 2 inches in diameter.

**ERROR.**—On p. 408, column 2, and line 25 from top, for "two" read "too."

**NAMES OF FRUIT (R. E. Horsfall).**—1, Comte de Flandre; 3, Susette de Bayay; 4, Beurré Diel; 6, Thompson's; 9, Van Mons Leon le Clerc; 10, Triomphe de Jodoigne. (E. H. R.).—The tall Apple is Catshead, and the round one Striped Beehing. (M. C. D.).—*Crataegus tanaecifolia*.

**NAMES OF PLANTS (J. Dukes).**—We cannot name from leaves only.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### THE CRYSTAL PALACE SHOW OF POULTRY, &c.

We wonder what the owners of the four thousand pens of birds thought when they were packing-up on Monday morning to consign them to the Sydenham meeting. No doubt many expected prizes who have not had a card, and very probably the less sanguine have had their share of success, for in the Palace lottery, sad to say, there are so few prizes in comparison to the blanks. But it is always well before these great meetings to demolish all one's airy castles, for it is often hard to have to do it afterwards. Many must be disappointed, for new birds make their *début* here, and old favourites have to be put upon the shelf, perhaps only temporarily, until, having rested, they are once more fit for battle, like

"Suns that set and moons that wane,  
Rise and are restored again."

As the Show is this year one day later in the week we cannot give our annual report until next week. Suffice it to say now that the quality is as good as ever, and the number of perfect specimens in the various breeds very large. Some names are missing from the catalogues—old household names in that body of exhibitors—some of them because the ranks have been thinned by death, and some of them from declining the fancy. Of the former we miss two very much, for we had for years been in the habit of going over the French and Cochon classes with them.

In other respects the Palace Show of 1876 much resembles the Palace Show of other years, for we see Mr. Billett walking about among his pens as usual. We see the same managing Committee rosetted and courteous. We recognise nearly the same faces, and in many cases the same birds. We can almost imagine we have slept for a twelvemonth and have woke-up and found the Crystal Palace Show where we left it in 1875. In appliances there is the same show houses, polished and varnished like drawing-room furniture; incubators, too, hatching, when they will never hatch at home; stalls of medicated compounds, and spices in tins and canisters, poultry baskets, poultry books, poultry papers—in fact all that is wanted at the Palace Show to make one become a poultry fancier is a "pocket full of rye," and from the number of "sold" cards about, in spite of the money market, trade stagnation, rumours of wars, and many such disturbances, we can fully believe that there are yet left many who can, king-like in the nursery rhyme, go into their counting-house and count out their money.

Thus much, then, for preface; the stern reality of criticism will come next week, and in the meantime we give our readers the prize list of this gigantic Show.—W.

#### POULTRY.

**DORKINGS.**—Coloured.—Cock.—1, Mrs. Arkwright. 2, G. Ellis. 3, H. Verey. Hen.—1 and Cup, F. Parlett. 2, F. Parlett. 3, T. C. Burnell. Cockerel.—1, Cup, and 4, O. E. Cresswell. 2 and 3, T. C. Burnell. 5, F. Caws. Pullet.—1 and Cup, E. Ponting. 2, Dr. Snell. 3, H. Brown. 4, H. Kelsey. 5, P. Ogilvie. Silver-Gray.—Cock.—1, Miss Easley. 2, W. W. Eustidge. 3, O. E. Cresswell. Hen.—1, Cup, and 3, P. G. Burnell. 2, O. E. Cresswell. Cockerel.—1, Cup, and 2, T. C. Burnell. 3, O. E. Cresswell. Pullet.—1, O. E. Cresswell. 2, T. C. Burnell. 3, Countess of Dartmouth. Blue or Cuckoo.—1 and 2, T. C. Burnell. 2, H. H. Young. White.—Cock.—1, Mrs. Hayne. 2, O. E. Cresswell. 3, R. A. Boissier. Hen.—1, Cup, and 2, O. E. Cresswell. 3, W. Clementson. Any variety.—1, Lord Tarnour. 2, P. Ogilvie. 3 and 4, F. Caws.

**COCHONS.**—Cinnamon or Buff.—Cock.—1 and Cup, G. H. Procter. 2, Mrs. Christy. 3, Lady Gwydyr. Hen.—1, G. H. Procter. 2, Mrs. J. Davidson. 3, A. Darby. Cockerel.—1 and Cup, Mrs. A. Tindal. 2 and 3, W. A. Burnell. 4, R. P. Percival. Pullet.—1, R. P. Percival. 2, H. Tomlinson. 3, A. J. E. Swindell. 4, W. A. Burnell. vhc, Lady Gwydyr. Partridge.—Cock.—1 and Cup, H. Tomlinson. 2, T. Stretch. 3, Lady Gwydyr. vhc, E. Tudman. Hen.—1, Mrs. A. Tindal. 2, E. Tudman. 3, J. N. C. Pope. vhc, R. P. Percival. Cockerel.—1, W. A. Burnell. 2 and 3, E. Tudman. vhc, Mrs. Gordon. Pullet.—1, C. Sigelwhite. 2, E. Tudman. 3, Mrs. A. Tindal. vhc, A. W. Burnell. E. Tudman. White.—Cock.—1, Cup, and 2, R. A. Boissier. 3, R. P. Percival. Hen.—1, Mrs. A. Tindal. 2, G. H. Procter. 3, R. A. Boissier. Cockerel.—1, Mrs. A. Tindal. 2, R. A. Boissier. 3, Rev. H. J. Bortow. Pullet.—1 and 2, Mrs. A. Tindal. 3, J. Booth. vhc, J. Turner. Black.—1, T. Aspden. 2, A. Darby. Cockerel.—1, E.

stiles, jun. 2, R. Fulton. 3, Ridley & Dye. *vhc*, P. H. Hutchinson. *Any colour*.—*Young Cocks*.—1 and Cap, Ridley & Dye. 2, J. McCulloch. 3, K. Blacklock. *vhc*, R. W. Bryce. *Blue-pied*.—*Hens*.—1 and 2, R. Fulton. 3, Ridley & Dye. *vhc*, M. H. Gill. *Black-pied*.—*Hens*.—1, Cup, and 2, H. Pratt. 3, Ridley & Dye. *vhc*, M. H. Gill. *Yellow or Red-pied*.—*Hens*.—1 and *vhc*, R. Fulton. 2, H. Pratt. 3, Ridley & Dye. *White*.—*Young Cocks*.—1 and Cup, Mrs. Lamb. 2, R. Fulton. 3, Ridley & Dye. *vhc*, J. Nicholson. *Yellow*.—1, H. M. Hens.—1, J. McCulloch. 2 and 3, R. Fulton. *vhc*, E. Beckwith. *Pigmy or Austrian*.—*Cock*.—1 and Cup, R. Fulton. 2, H. W. Webb. 3, C. B. Child. *vhc*, W. B. Tegetmeier. *Hens*.—1, G. Holloway, jun. 2 and *vhc*, W. B. Tegetmeier. 3, C. B. Child.

**CARRIERS**.—*Black*.—*Cocks*.—1 and Cup, H. M. Maynard. 2, R. Fulton. 3, M. Beddley. *Hens*.—1 and Cup, H. M. Maynard. 2, R. Fulton. 3, H. Heritage. *Blue*.—*Cocks*.—1 and Cup, R. Fulton. 2, W. J. Nicholson. 3, H. M. Maynard. 2, W. J. Nicholson. 3, M. Hedley. *Any other colour*.—*Cocks*.—1, H. Jacob. 2, R. Fulton. 3, E. Beckwith. *Hens*.—1, G. Bentley. 2, W. Hooker. 3, E. C. & T. H. Strath. *Black*.—*Young Cocks*.—1 and Cup, T. Griffiths. 2, R. Fulton. 3, R. A. Pratt. 4, Col. Hassard. *Young Hens*.—1 and R. Fulton. 2, Ridley and Dye. 3, C. H. Clarke. *Dun*.—*Young Cocks*.—1, R. Fulton. 2, R. Heritage. 3, H. M. Maynard. 4, Col. Hassard. *Young Hens*.—1, R. Fulton. 2, E. R. Fulton. 3, W. Cassar. *Blue*.—1 and Cup, R. Fulton. 2, R. Cap. 3, G. Kempton. *Any other colour*.—*Cock or Hen*.—1, R. Fulton. 2, E. Beckwith. 3, J. C. Ord. *Any colour*.—1, G. Kempton. 2, R. Fulton. 3, W. W. Pyne.

**DRAGONS**.—*Blue*.—*Cock*.—1, Cup, and 2, R. Woods. 2, W. B. Tegetmeier. 3, W. Smith. *Silver*.—*Cock*.—1, Cup, and 2, R. Woods. 3, W. Smith. *Yellow or Red*.—1, 2 and 3, R. Woods. *Blue*.—1, 2, R. Woods. 2, W. Smith. 3, T. K. Cocksey. *Any other colour*.—1, Cup, and 2, R. Woods. 3, W. B. Tegetmeier. *Silver Brown-bar*.—*Hens*.—1 and 3, R. Woods. 2, W. Bishop. 2, R. Woods. *Yellow or Red*.—1, R. Woods. 2, R. Woods. 3, S. C. Retty. 3, R. Fulton. *Grizzle*.—*Cock or Hen*.—1 and Cup, R. Woods. 2, R. Fulton. 3, W. Smith. *White or any other colour*.—*Cock or Hen*.—1, Cup, and 3, R. Woods. 2, A. McKenzie. *Blue or Silver*.—*Single*.—1, Cup, and 2, R. Woods. 3, T. C. Burnell. 4, W. B. Tegetmeier. *Yellow or Red*.—*Single*.—1, W. Sarjeant. 2, R. Woods. 3, G. V. H. Thomas. *Any other colour*.—*Cock or Hen*.—1 and 2, W. Sarjeant. 3, W. W. Pyne. *Any age or colour*.—1, J. Andrew. 2, Master E. Howard. 3, W. Sarjeant.

**TUMBLERS**.—*Almond*.—*Cock*.—1, Cup, 2 and 3, T. Hallam. *vhc*, T. Hallam; H. C. Henning; N. Henderson. *Hens*.—1, R. Fulton. 2 and 3, H. Yardley. *vhc*, C. Merck. *Single*.—1, Cup, and 2, T. Hallam. 3, R. W. Bryce. *vhc*, W. Woodhouse; H. C. Henning. *Mottled*.—*Cock or Hen*.—1, Cup, 2 and 3, H. C. Henning. *Bald or Beards*.—*Cock or Hen*.—1, W. Woodhouse. 2, H. Yardley. 3, R. Fulton. *vhc*, H. Gomme. *Any other colour*.—*Cock or Hen*.—1, Cup, E. Beckwith. 2, T. Hallam. 3, H. C. Henning. 4, T. Hallam. *Any variety*.—1 and 3, H. C. Henning. 2, R. Cant.

**BABBS**.—*Any colour*.—*Cock*.—1, M. Hedley. 2, H. M. Maynard. 3 and *vhc*, J. Firth. *Hens*.—1, W. Bryce. 2, H. M. Maynard. 3, M. Hedley. *vhc*, W. J. Hyde; 2, W. Bryce. *Black or Dun*.—*Young Cocks*.—1, Cup, and 2, H. M. Maynard. 3, W. H. Hyde. *Young Hens*.—1 and 3, J. Firth. 2, W. J. Hyde. *vhc*, T. K. Cocksey. *Any other colour*.—*Young Cocks*.—1 and 2, M. Hedley. 3, J. Firth. *Any other colour*.—1, Cup, and 2, W. Bryce.

**JACOBS**.—*Red*.—*Cock*.—1 and Cup, E. E. M. Rorids. 2, H. Heritage. 3, W. Harrison. *vhc*, S. Salter; R. Fulton; A. Heath. *Hens*.—1, E. E. M. Rorids. 2, G. Alderton. 3, H. Heritage. *Yellow*.—*Cock*.—1, G. Hardy. 2, R. Fulton. 3, T. W. Swallow. *Hens*.—1 and 2, R. Fulton. 3, H. Heritage. *White*.—*Single*.—1 and Cup, E. Beckwith. 2, R. Fulton. 3, J. Waters. *Any other colour*.—*Single*.—1, J. F. Frame. 2, H. Heritage. 3, J. Thompson. *Any age or colour*.—1, Cup, and 2, H. Heritage. 3, W. Frame.

**FANTAILS**.—*White*.—*Cock*.—1, Cup, and 3, Rev. W. Serjeantson. 2, Q. Blumh. *Hens*.—E. Beckwith. 2, J. F. Loversidge. 3, J. F. Loversidge. *Any other colour*.—*Single*.—1, H. Yardley. 2, Q. Blumh. 3, J. E. Spence.

**NUNS**.—*Any colour*.—*Single*.—1, T. C. Burnell. 2, W. E. Easten.

**TEMPETERS**.—*Any colour*.—*Single*.—1 and Cup, C. J. Woodford. 2, P. H. Hutchinson. 3, J. Lederer. *vhc*, P. H. Hutchinson; E. Beckwith.

**EWLS**.—*English*.—*Cock*.—1 and Cup, E. Sandon. 2, A. D. Dible. 3, E. Lees. *Hens*.—1, J. J. Gardener. 2, J. B. Barnes. 3, J. Gardener. *Foreign*.—*Single*.—1, A. N. Bryce. 2, R. Fulton. 3, G. Alderton.

**TURBETS**.—*Blue and Silver*.—*Single*.—1 and Cup, S. Salter. 2, R. Woods. 3, M. S. Temple. *Red or Yellow*.—*Single*.—1 and 2, C. A. Crafer. 3, R. Fulton. *Any other colour*.—*Single*.—1, O. E. Cresswell. 2 and 3, S. Salter.

**MAGPIES**.—*Single*.—1 and 2, Rev. F. P. Bulley. 3, E. Beckwith.

**ARCHANGELS**.—*Single*.—1 and 3, R. Wilkinson. 2, Dr. J. Bowes.

**RUSS**.—*Single*.—1 and Cup, T. Price. 2 and 3, T. D. Green. *Hens*.—1 and 2, J. T. Price. 3, H. Stephens.

**TUMBLERS**.—*Flying, not Short-faced*.—*Single*.—1, R. Woods. 2 and 3, J. G. Frith.

**ANTWERPS**.—*Short-faced*.—*Single*.—1, R. & J. Ecroyd. 2, J. Gardner. 3, F. Wenny. *Hens*.—*Cock*.—1 and Cup, A. Cleaver. 2, J. W. Barker. 3, C. G. Butler. 4, G. J. Lenny. *Hens*.—1 and 2, G. J. Lenny. 3, T. G. Ledger. 4, J. W. Barker.

**SELLING CLASSES**.—*Single*.—1, R. A. Pratt. 2, Dr. J. Bowes. 3, H. A. Roper. 4, R. Fulton. *vhc*, G. Murphy. *Pair*.—1, G. Murphy. 2, G. H. Gregory. 3, J. D. Firth. 4, B. W. Browne.

**COLLECTION OF FOUR PAIRS OF PIGEONS** (Exclusive of Carriers, Pouters, and Tumblers)—Not less than two varieties.—1, Cup, and 2, R. Fulton. 3, A. Hives.

**COLLECTION OF CARRIERS, POUTERS, BABBS, OR TUMBLERS**.—Four birds of other than one variety to be shown in a pen.—*Young*.—1, H. M. Maynard. 2, T. Hallam. 3, R. Fulton. 4, R. Newman.

**COLLECTION OF ANY OTHER VARIETY**.—Four birds of one or any varieties to be shown in a pen.—*Young*.—1 and Cup, F. P. Bulley. Equal 2, Ward and Rhodes, J. Schwitzer. Equal 3, T. Putnam, J. Schwitzer. *vhc*, J. T. Price, J. Philpot.

**HOMING ANTWERPS**.—*Special Flying Class*.—*Cock*.—1, W. S. Marsh. 2, J. Edmonds. 3, Coppard & Son. 4, Col. Hassard. 5, G. C. Carrall. *Hens*.—1 and Cup, G. Cotton. 2, J. J. Sparrow. 3, W. B. Tegetmeier. 4, T. G. Ledger. 5, Roff & May.

THE DINNER.

This meeting of fanciers took place on Tuesday evening in the Marble Hall. Mr. Sawyer provided a capital repast. The chair was taken by J. K. Fowler, Esq., one of our oldest and most honoured fanciers, and we are sure that all there present must have felt much indebted to him for the very able and courteous way in which he presided. He was supported on his right by Mr. Howard, and on the left by Mr. Smith. Among the company we noticed Lord St. Leonards, the Hon. and Rev. F. Dutton, Messrs. Hewitt, Crook, Prior, Teebay, Nicholls, Dixon, Tegetmeier, P. H. Jones, Esquilant, Darby, W. A. Burnell, Cresswell, Wright, Salter, Hibbert, R. R. Fowler, Mathews, Fitz-Herbert, Davis, E. Jones, Boissier, Adkins, J. Walker, Sainsbury, Gedney, Cameron, &c.

After dinner the usual loyal toasts were proposed and warmly received; then followed the healths of the Judges, to which Mr. Hewitt responded, and we were delighted to find he has no partiality for the "untrimm'd classes" which we wrote against a week or two back. The healths of the Committee, Secretary,

Light *Brahmas* came first in the catalogue. The winning bird was very large and massive, but a trifle too long in tail and coarse in comb. In hens the winner was a fine bird, and only wanted some middle toe-feathering to make her perfect; the second was a good bird, with very distinct neck hackles. Dark cocks were poor, and the third prize was withheld. The first pullet was a good bird, and so was the second, both well pencilled. In *Cochins* the first cock was a large bird, and was, we think, in the right place; the second was a good cockerel for colour; and the third was a deep cinnamon of much quality. In hens a pretty pullet, a little small, was first; and a good hen took second, and the same third. The winner in the next class was of beautiful whiteness, but had a large comb; a large Partridge was second, and a fair White cockerel third. A pullet was again first in the next class; and two good hens took second and third honours. In *Hamburgs* the first Silver-spangled cock was a good bird, and was about the best of the Hamburgs, though the first Gold-pencilled and first Black cockerels were very good. The latter colour, however, made but a meagre display for quality. We liked the judging here, and believe it to have been most carefully done. In *Game*, as we said before, the first Black Red cockerel won the cup; he had beautiful carriage and a capital tail. Third was supposed by many to have been the £10 10s. cup-winner at Oxford; he was still in fine bloom. In Brown Red cockerels a good undubbed chicken was first; he was of much promise, and had a capital head. In Brown Red pullets a bird with good all-round properties came well in first. In Duckwings a fine cock was first; but in pullets and hens, save for the first-prize bird, we noticed nothing very superior. *French* made a good display; Crèves won first in both classes, the hen of this breed being especially good in size and crest. The *Leghorns* made two fair lots, and we thought the awards in the Browns quite correct, while in the Whites there could be no possible doubt, as the first-prize pair were the only really white pair in the class. The Variety classes were excellent, and the quality was good all through: first went to a Silver Poland in

splendid feather, second to a very White-crested Black Poland in equally good feather, and third to a very neat Silky. In the class for hens a splendid White-crested Black Poland, with an immense globular crest, was first; a very square White Dorking second; and a good Silver Poland third. It was a pity the Committee had not given this latter breed a class. In the *Bantams* the Game were but indifferent, while in the Variety classes most of the prizes went to Laced birds. Of them the first Silver cockerel and first Gold pullet were very perfect. The *Waterfowl* made excellent classes. The cup Aylesburys had fine beaks, and were massive in frame. The Rouens were capital; while in the next class a very good pen of Black East Indians were first, the Duck being especially free from brown on the wings. The pen of this breed shown by Mr. Sainsbury were very good, and closely pressed on the first in our opinion. The third Calls were pretty, and we were glad to see the breed in the list. The Sale classes were large, good White Cochins winning both first prizes.

The *Pigeons* were an attractive little lot. The first Jacobins were good Reds. A moderate pair of White Fans were first in their class. The cup went most deservedly to Mr. Yardley's Black Carrier cock. The Tumblers were good; first and second going to Almonds, and third to Kites. The Dragons mustered well; Blues of good colour and sound in wing-bars won first and second. We noticed but moderate birds in the Sale class. We furnish full awards below, and wish the Society, which has made such a capital start with amateur judging, very much success. The room was well lined with visitors, so we hope the receipts at the gates were good.

**POULTRY.—Brahmas.**—Light.—Cock.—1, R. P. Percival. 2, T. A. Dean. 3, Mrs. W. C. Drummond. Hen.—Cup, S. Sambrooke. 2, R. P. Percival. 3, T. A. Dean. *Chc.*, J. Bloodworth. *Dark.*—Cock.—1, J. S. Maggs. 2, R. P. Percival. 3, G. S. Carson. Hen.—1, R. P. Percival. 2, J. S. Maggs. 3, G. S. Carson. *Cochins.*—*Cinnamon.*—Cock.—1, R. P. Percival. 2, R. P. Percival. 3, S. R. Harris. Hen.—1, J. E. Swindle. 2, J. Bloodworth. 3, A. Darby. *Any other variety.*—Cock.—1, R. A. Boissier. 2, R. P. Percival. 3, Rev. H. J. Borrow. *Chc.*, A. Darby. Rev. R. S. Woodgate. *Hen.*—1, Rev. H. J. Borrow. 2, C. Bloodworth. 3, Rev. R. S. Woodgate. *Chc.*, Mrs. J. T. Holmes. *Game.*—*Black-breasted.*—Cock.—Cup, G. Newdigate. 2, T. P. Lyon. 3, P. A. Beck. *Hen.*—1, G. S. Carson. 2, W. H. Stagg. *Extra.*—Cock, G. Newdigate. *Chc.*, J. P. James. *Broad-breasted.*—Cock.—1, R. E. Fowler. 2, H. E. Martin. 3, J. T. Browne. Hen.—1, T. Mason. 2, H. E. Martin. 3, G. F. Ward. *Any other variety.*—Cock.—1, W. H. Stagg. 2, W. C. Phillips. 3, H. E. Martin. Hen.—1, W. C. Phillips. 2, D. W. J. Thomas. 3, C. Gibbs. *Hamburghs.*—*Gold and Silver-spangled.*—Cock.—1 and 2, H. Feast. 3, H. Pickles. Hen.—1, H. Feast. 2, H. Feast. 3, T. Blakeman. *Gold and Silver-pencilled.*—1, H. Feast. 2, J. Long. 3, W. K. Ticker. Hen.—1, H. Feast. 2, W. K. Ticker. 3, H. E. Thompson. *Black.*—Cock.—1, R. L. Garnett. 2, H. Pickles. 3, H. Feast. Hen.—1, H. Feast. 2, R. L. Garnett. 3, H. Pickles. *French.*—Cock.—1, H. Feast. 2, S. A. Vickery. 3, J. H. Brooks. Hen.—1, R. R. Fowler. 2, S. W. Thomas. 3, E. Burrell. *Chc.*, H. Feast. *Leghorns.*—*Brown.*—1, F. L. Green. 2, A. Kitchen. 3, S. L. Bradbury. *White.*—1 and 3, R. R. Fowler. 2, E. C. Seaman. *Bantams.*—*Game.*—*Black Red.*—Cock.—1, W. Adams. 2, G. Prentice. 3, T. Wicks. Hen.—1, W. Adams. 2, J. Smith. 3, E. C. Phillips. *Game.*—*Any other variety.*—Cock.—1, W. C. Phillips. 2, C. H. Fitz-Herbert. 3, S. Hockaday. Hen.—1, F. Maitland. 2, W. M. Rumbelow. 3, T. S. Hockaday. *Any other variety.*—Cock.—1, T. P. Carver. 2, W. H. Robinson. 3, G. Holloway. *Hen.*—1 and 3, J. V. Lloyd. 2, G. Holloway. *Any other distinct variety.*—Cock.—1, C. Bloodworth. 2, A. Darby. 3, Rev. R. S. Woodgate. *Chc.*, H. J. Lonnnon. Hen.—1, T. Norwood. 2, A. Darby. 3, C. Bloodworth. *Rev. R. S. Woodgate.*—1, T. Foreman. *Selling classes.*—Cock.—1, R. A. Boissier. 2, C. Sidgwick. 3, W. Jones. *Chc.*, C. Bloodworth. 2, J. Bloodworth. 3, H. Haddrell. *4.*, E. Pritchard. *Waterfowl.*—*Pair.*—1, G. Hanks. 2, W. H. Copplesstone. 3, J. S. Maggs. 4, H. Feast. *Ducks.*—*Rouen.*—1, H. J. Bailey. 2, J. S. Maggs. 3, E. Snell. *Aylesbury.*—1, R. R. Fowler. 2, H. J. Bailey. 3, E. Snell. *Any other variety.*—1, S. Burn. 2, W. R. Rootes. 3, H. J. Bailey. *Geese.*—1, R. R. Fowler. 2, E. Snell. 3, H. J. Bailey.

**IONS.—Carriers.**—Cock or Hen.—Cap, H. Yardley. 2, J. James. 3, W. G. Flanagan. *Dragon.*—Cock or Hen.—1, C. W. Calcutt. 2, J. James. 3, G. S. Prentice. *Chc.*, W. G. Flanagan. *Any other colour.*—Cock or Hen.—1, W. G. Flanagan. 2, A. McKenzie. 3, G. S. Prentice. *Tumblers.*—*Short-faced.*—Cock or Hen.—1, W. R. Pratt. 2, H. Yardley. 3, G. Packham. *Any other variety.*—Cock or Hen.—1 and 3, J. Aston. 2, Master E. P. Harmer. *Antwerps.*—*Short-faced.*—Cock or Hen.—1 and 2, H. Yardley. 3, C. F. Copeman. *Fantails.*—Cock or Hen.—1, J. Walker. 2 and 3, J. F. Loversidge. *Jacobins.*—Cock or Hen.—1, P. H. Jones. 2 and 3, G. S. Prentice. *Owls.*—Cock or Hen.—1, A. J. Barnes. 2 and 3, P. H. Jones. *Runts.*—Cock or Hen.—1, T. D. Green. 2 and 3, H. Yardley. *Any other distinct variety.*—Cock or Hen.—1, H. Yardley. 2 and *Chc.*, P. H. Jones. 3, Mrs. J. T. Holmes. *Selling class.*—1, G. Packham. 2, A. Shadling. 3, A. P. Byford.

### PRESERVING EGGS.

In the year 1871-2 I preserved eggs so perfectly that after a lapse of six months they were mistaken when brought to table for fresh-laid eggs, and I believe they would have kept equally good for twelve months.

My mode of preservation was to varnish the eggs as soon after they were laid as possible with a thin copal varnish, taking care that the whole of the shell was covered with the varnish. I subsequently found that by painting the eggs with fresh albumen beaten up with a little salt they were preserved equally well, and for as long a period. After varnishing or painting with albumen I lay the eggs upon rough blotting paper, as I found that when allowed to rest till dry upon a plate or on the table the albumen stuck so fast to the table or plate as to take away a chip out of the shell. This is entirely obviated by the use of the blotting paper. I pack the eggs in boxes of dry bran.—*DEE SIDE.*—(*World of Science.*)

THE BIRMINGHAM AGRICULTURAL EXHIBITION SOCIETY.—The Poultry Show is open for the first time to non-subscribers, the

fee for a single pen being 8s. and for Pigeons 5s. This concession should increase the number of exhibitors considerably. Should this be the case there will be very little room remaining for the exhibitors of implements and miscellaneous articles, the entries for which are already closed, although the allotment of space cannot take place until the stock and poultry certificates are enumerated.

CANTERBURY POULTRY, PIGEON, AND CANARY SHOW.—The entries close on the 20th. Since the publication of the schedule two extra prizes are given, one (£4) for pair of Light Brahma pullets, and one (£5 5s.) for best cockerel and pullet Silver-Grey Dorkings, making fourteen prizes besides the money prizes.

### EXCHANGE OF QUEENS.

THIS autumn I substituted in September two imported Italian queens in place of two common English queens, both of which having escaped from their careless owners (unknown to me) took up their quarters in my garden, one this and one last year. Both hives took to their stranger queens with the greatest complaisance within six or seven hours of the removal of their own mother queens, and without the slightest symptom of disaffection. I gave these queens to the several hives in my own old fashion—that is, by isolating the queen from her Italian guards under a broken wineglass, and putting her over a central hole at the top of each hive, with the intervention of a bit of perforated zinc. I had intended to try queen cages, two of which I bought for the purpose; but my friends here wishing to see the process of union and how the bees would take to the new queen, I resorted to the plan which I have always hitherto adopted as described above. My plan is to let the queen get thoroughly scented with the warm odours of the hive below and to make acquaintance with the excited bees beneath her, many of which, having discovered their own loss, are only too glad to scent and touch the solitary queen, which they do by thrusting their probosces through the holes of the zinc. When the queen, who places herself invariably just over the hole, has been thus well scented and the mutual acquaintance has been made, I gently withdraw the zinc so as to admit one bee at a time into the glass. If all goes well I let up another and another, and so on till I am satisfied by the joyful humming of the bees above and below that all danger of an attack upon the queen is over. They are then left to their own devices, and sooner or later the whole party descend and are seen no more.

In the one case thus treated early in September no result appeared, though I was satisfied all was well, till towards the end of October, when I had the pleasure of seeing several well-marked Italians in the hive, which will no doubt so increase during the winter and spring that by May the whole hive will be italianised.

The other hive received the queen most cordially, and in this case I had the pleasure of seeing her descend from the wineglass into the hive below, welcomed and accompanied by a handsome body guard of admirers and happy bees within twelve hours from the time I had deprived them of their old queen. But there arose a subsequent question in my mind as to whether after all some fatal accident had not befallen her, for the bees resumed (perhaps continued) their restlessness the next day, appearing to have lost their queen, or not to have recognised the Italian. I also feared that she was still a virgin queen because her own guards did not seem to take much notice of her before I took her from them, and I distinctly heard her pipe while still in the box she travelled in. Therefore I thought it prudent to restore to them their old queen (saved against accidents) towards the evening of the second day. She, too, though absent some thirty hours from the hive, was received back again and escorted into the hive much as the Italian had been the day before. Of course I thought the Italian queen had been sacrificed, perhaps by queen-encasement, as is frequently the case. However, since then a great number of well-marked yellow-jackets have appeared in the hive.

I can only suppose the explanation of this curious circumstance to be this, that the stranger queen was recognised and received by a portion of the bees only, among which she took up her position quietly in some corner of the hive, and that the mass of the bees not having come across her were still in agitation when I gave them their old queen. Afterwards, I presume, the two queens must have met, and the Italian proved herself the stronger. Of course it is possible the two queens may be alive, and have amicably divided the kingdom between them. Such a possibility is vouched for by undoubted instances, however rare and exceptional, having been recorded in the pages of this Journal of two queens being found together in the same hive, although it does not follow that they were both mother queens.—B. & W.

SILVER-GREY DORKING CUP AND ARCHANGEL PRIZES AT THE CRYSTAL PALACE.—Through your columns I acknowledge with thanks the subscriptions which I have received for the above-



mentioned prizes. *Silver-Grey Dorking Cup*: T. C. Burnell, Esq., 10s. 6d.; Hon. Mrs. Colville, 10s. 6d.; Countess of Dartmouth, £1 1s.; W. H. Denison, Esq., 10s. 6d.; Miss Pasley, 10s.; Rev. H. A. Peel, 10s. 6d.; Major Plummer, 5s.; W. Roe, Esq., jun., 5s.; James Walker, Esq., 10s. 6d. = £1 13s. 6d. *Archangel Prizes*: R. Barclay, Esq., 5s.; J. N. Bowes, Esq., 5s.; T. C. Burnell, Esq., 5s.; W. H. Denison, Esq., 5s.; R. Wilkinson, Esq., 5s. = £1 5s. The rest of the sums required I gladly make up.—O. E. CRESSWELL.

### LARGE APIARY.

MR. J. S. HARBISON of San Diego county, Cal., arrived in this city yesterday with ten carloads of honey, each carload containing 20,000 lbs. This vast aggregation of bee labour was taken from Mr. Harbison's six apiaries on the sides of the coast range of mountains as near to the Mexican line as they well can be, and yet claim the protection of the Stars and Stripes. Twenty-five years ago Mr. Harbison made a stir in the world by selling at one time 2000 lbs. of honey, the product of his apiary near New Castle, Pa. So much honey had never before been raised by a single producer, and the sale led hundreds of staid farmers to embark in what looked like a most profitable field of industry. The result was not flattering. Short seasons and limited bee pasture forbade profitable bee-culture. Old-fashioned hives were then the only kind known. The modern means of robbing bees without killing them had not been thought of.

Having invented a hive that enabled the culturist to obtain successive crops of honey from the same colony of bees, Mr. Harbison began to look for a region that would supply food for the bees. He searched for this in the equable climate of the Pacific coast, and found it in a strip of country in the extreme south-western corner of the United States, now known as the bee belt of California. Sheep-raising was the only industry of the natives found by Mr. Harbison when he first visited the country. The country inland was thought good enough for sheep-pasturing, but no one dreamed that the soil could be made to produce grain in paying quantities. Timber was confined to the bottoms of running streams and to the canons, the valleys and hillsides being covered with a growth of stunted brushwood, from which sprang a luxuriant growth of white sage, sumach, and other flowering shrubs, which bloom there nine months of the year.

Mr. Harbison's first apiary was started on a mountain side twenty miles east of San Diego. He embarked for the west with seventy hives of bees, but they were reduced to sixty-two by casualties. From them he now has six apiaries and a total of three thousand hives. He employs fifteen men constantly, and is reaping rich profits from many thousands of acres that must otherwise have been a barren waste. He soon had many imitators, and now not less than three hundred persons are taking honey along the "Bee Belt."

The California bee season, Mr. Harbison says, begins by February 1st. In March or April the bees swarm, and the bee-culturist has lively times in saving the swarms. The science has become so systematised now that the apiculturist knows within a day or two when a given hive may be expected to swarm, and as the young bees always settle somewhere near the parent hive at least once before selecting their new quarters, a swarm is seldom lost. The flowers are at the height of their luxuriance in May and June, and the taking of honey is begun usually about May 20th, and the bees are kept at work as long as the flowers last. They cease to bloom in sufficient quantity to more than subsist the bees in the early part of August; but the little workers are able to find enough to live on without consuming their stores as late as October. It will thus be seen that the harvest time is never longer than three months, and is often much less. After October begins, although the air is still mild and spring-like, the bees cease to work, and retire into a semi-dormant condition. Once every eight or ten days a colony will turn out at mid-day and fly around an hour or two in the sunshine, but they never fly far from the hive, and are never seen at work.

The food of the bees in the bee belt is generally the flower of the white sage, a plant that closely resembles the garden sage. This is not to be confounded with the sage bush of Nevada and Utah, which is of the wormwood species, and has the family bitterness. Next to the sage in importance as bee food is the sumach, a shrub that grows in California without poisonous quality. In fact, there is no poisonous flowering plant in the bee range, and the honey has none of the colicky qualities that make eastern-grown honey objectionable. The honey is graded by the culturist according to the plant from which it is derived. That from sage flowers, being clearest and most aromatic, is most valuable.

Mr. Harbison says that notwithstanding the great crop that he has brought into this market, he will probably not realise more than \$1000 after deducting expenses and interest on capital. He had to dig his bee ranch out of the wilderness. The roads thereto over rocky mountain sides and deep canons, were built

at heavy cost. The continuous labour of fifteen men is needed in the care of propagation and harvesting. The hives, boxes for shipment, and household supplies have all to be transported from San Diego, forty miles from his most remote apiary. It costs about four cents, gold, to freight a pound of honey by water to San Francisco and by rail to New York. Taking into consideration the commissions and currency values realised here, there is no great margin left for profit.—(New York Sun.)

### OUR LETTER BOX.

**FATTENING TURKEYS (Anxious).—**If you mean to have fat and weight at Christmas you must begin to think about your Turkeys. If you mean them to be very fat they should be up at least a month, and now they should be very well fed, although not shut up. You must choose a house in which they can roost. They do not care so much about being very high, but they must roost somewhere. The empty bay of a barn will make a place if no other is available; perches are easily improvised. The birds should feed from a trough, and, unlike other poultry when fattening, they may always have food by them, but that must not be abused. They must be fed frequently, but with fresh food. The trough is not to be filled in the morning for the day. The meaning of always having food by them is that whenever the trough is empty a little food should be put in. No poultry will fatten on sour or stale food. The food should be barley meal or ground oats slaked with milk, with onion tops chopped fine and mixed with it. Many successful feeders add a little bean or pea-meal with the food. They should not have too much room. They should be supplied with gravel and fresh-cut sods of grass. Their food should be made into a thick liquid, not a stiff paste.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 43" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1876.	Baromet. at 3 p. and Sea and Level.	Hygromet- er.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun. On grass	
Nov.		Dry.	Wet.			Max.	Min.	In sun.	On grass		
We. 8	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Th. 9	29.970	84.4	83.5	N.	43.3	43.8	29.3	89.5	24.8	—	
Fri. 10	30.128	84.2	83.5	N.	42.4	41.0	32.5	75.6	29.6	—	
Sat. 11	30.055	84.8	84.0	S.E.	42.2	47.7	27.6	67.0	24.1	0.446	
Sun. 12	29.283	88.2	88.2	N.E.	58.6	44.2	33.2	44.2	29.5	0.455	
Mo. 13	29.481	42.9	42.9	W.	41.6	46.5	39.2	53.2	31.1	0.478	
Tu. 14	29.567	48.8	48.2	N.W.	43.7	61.4	42.6	81.0	43.0	0.267	
Means.	29.794	83.4	87.8		41.6	45.0	33.5	63.8	30.9	1.246	

### REMARKS.

- 8th.—White frost in morning; fine day; two very slight showers, and a low temperature.  
9th.—Rather dull morning; a fine day, but colder than the one preceding.  
10th.—Fine all day, but still getting colder.  
11th.—Fine day, but very cold; solar halo at 3 p.m.; wind high at 8 p.m.  
12th.—Rain from soon after midnight on 11th to 9 a.m. on 12th, then fine for a short time, then frequent (and at times heavy) showers.  
13th.—Very damp, dark, and thick in the morning; dull and showery all day, and warmer.  
14th.—Foggy morning, but clearing off soon after 9 a.m.; the remainder of the day fine; very warm at night, 9 p.m. temperature 58°.  
The average temperature of the week about 5° below that of the previous one, the first five days having been cold and frosty.—G. J. SYMONS.

### COVENT GARDEN MARKET.—NOVEMBER 15.

LARGE quantities of American Apples are still arriving. Pears continue to reach us from Jersey in sufficient quantities to meet the demand.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	6	0	5	Nectarines.....	dozen	0	6	0
Apricots.....	dozen	0	0	0	Oranges.....	£ 100	8	0	16
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	0	0	0
Currants.....	1 sieve	0	0	0	Pears, kitchen.....	dozen	1	0	3
Black.....	do	0	0	0	dessert.....	dozen	2	0	0
Figs.....	dozen	0	0	0	Pine Apples.....	lb.	2	0	0
Gooseberries.....	lb.	0	0	0	Pineapples.....	1 sieve	0	0	0
Grapes.....	lb.	0	10	2	Quinces.....	bushel	0	0	0
Cobs.....	dozen	0	0	0	Raspberries.....	lb.	0	0	0
Guinea.....	quart	0	0	0	Strawberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	1	6	0	Walnuts.....	bushel	5	0	0
Lemons.....	£ 100	12	0	18	ditto.....	£ 100	1	6	3
Melons.....	each	2	0	5					

#### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	4	0	6	Leeks.....	bunch	0	4	0
Asparagus.....	£ 100	0	0	0	Mushrooms.....	pottle	0	6	1
French.....	bundle	0	0	0	Mustard & Cress.....	punnet	0	2	0
Beans, Kidney.....	£ lb.	0	8	0	Onions.....	bushel	3	0	5
Beet, Red.....	dozen	1	6	0	Pickling.....	quart	0	4	0
Broccoli.....	dozen	0	9	1	Parsley.....	doz. bunches	2	0	0
Brussels Sprouts.....	dozen	0	4	0	Parsnips.....	dozen	0	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	0	0
Carrots.....	bunch	4	0	8	Potatoes.....	bushel	2	6	4
Capsicums.....	£ 10	1	6	2	Kidney.....	do.	8	0	5
Califlowers.....	dozen	8	0	0	Radishes.....	doz. bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	3	0
Coleworts.....	doz. bunches	2	0	0	Salsify.....	bundle	0	1	0
Cumbers.....	each	0	2	0	Scorzonera.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	1	6	8
Fennel.....	bunch	0	3	0	Shallots.....	lb.	0	3	0
Garlic.....	lb.	0	6	0	Spinach.....	bushel	1	6	2
Herbs.....	bunch	0	3	0	Tomatoes.....	£ sieve	4	0	5
Horseradish.....	bundle	4	0	0	Turnips.....	bunch	0	4	0
Lettuce.....	dozen	0	6	2	Vegetable Marrows.....	0	2	0	6

## WEEKLY CALENDAR.

NOVEMBER 23—29, 1876.			Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.	
Day of Month	Day of Week.		Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.			
23	TH	Birmingham Show closes.	47.6	34.2	40.9	7	35	3	59	1	1	10	45	7	12	58		328	
24	F	Leeds Show.	47.4	31.7	39.5	7	36	3	58	1	13	11	58	)	12	40		329	
25	S	Michaelmas Terms ends.	46.4	33.7	40.0	7	38	3	57	1	23	morn.		9	12	21		330	
26	SUN	24 SUNDAY AFTER TRINITY.	47.2	32.9	40.0	7	39	3	56	1	33	1	12	10	12	1		331	
27	M		47.0	33.6	40.3	7	41	3	55	1	45	2	27	11	11	40		332	
28	Tu		48.1	33.9	41.0	7	42	3	54	1	59	3	47	12	11	19		333	
29	W	Royal Horticultural Society—Fruit and Floral Com- mittees at 11 A.M.	51.3	33.8	42.5	7	44	3	53	2	16	5	11	13	10	57		334	

From observations taken near London during forty-three years, the average day temperature of the week is 48.0°; and its night temperature 33.4°.

## FOLIAGE IN RELATION TO COLOURING AND FLAVOURING FRUITS.



OR an unscientific gardener to attempt to write on a scientific subject may savour of presumptuousness, but my excuse is that learners in the practical part of our profession are helped more by their fellow learners than they are by articles elaborately written by the most talented men of science. We can grope our way together, as it were, feeling and sympathising with each other. Occasionally one is able to give the others a

pull, and if it is not in the right direction there are plenty to apply the drag. We are, I own, sadly behind in theoretic knowledge, but I think I have read somewhere that "the greatest of men have very small swallows," and of course the little men cannot be expected to take in a whole cyclopædia at once. Professors of science are generally highly educated men whose language is of necessity beyond the comprehension of ordinary gardeners; and although they are generally right in their conclusions, yet, owing to their want of practical knowledge, they are, of course, sometimes wrong. I hope it is not a general failing of gardeners, but I must own to the possession of it myself, that I would rather listen to the rough original reasonings of one of Nature's children unadorned with scientific education, but with a taste for observing every-day things, than I would read the reports in the *Times* of great scientific meetings. Perhaps the reason is that the observant gardener has so much delightful food for his mind that it makes him dainty, or in my case it may be mere laziness, reaching no further than the spot on which I stand. Let us hope so. I know I ought to have read myself up on the subject of this article, but then there would have been a disadvantage, for if I read I might be tempted to copy. Now, if not strictly correct I am at least original, and may tempt some of my fellow-workers to think for themselves.

A great many complaints have appeared in the gardening papers this season about Melons without flavour and Grapes without colour, and as no satisfactory explanation, as far as I have seen, has been given, I will attempt to give my own ideas of the matter.

A certain proportion of healthy foliage is absolutely necessary to elaborate the juices for growing, colouring, and flavouring fruits. If the foliage is injured by scorching, by insects, or any other means, the fruit must suffer. The past summer has been an exceptional one, and plants required exceptional treatment. Three times the usual quantity of water was necessary, and where it was not applied, in addition to the plants being starved, red spider and other insects would so mutilate the leaves that they could not properly perform their functions. I have often said that Vines, as a rule, do not have sufficient water, and the same applies to Melons. It is one of the greatest mistakes in fruit-culture to keep Melons dry when they are approaching maturity. I suppose the variety I cultivate exclusively (Meredith's Cashmere) is one of the

most difficult to keep from cracking, yet I would on no account keep it dry as a preventive of its only fault, for by so doing the flavour becomes very poor indeed. I prefer crippling the stalk of the fruit, so as to limit its supply of sap without checking the supply to the foliage. The stalk is squeezed between the finger and thumb, and it often requires doing daily, as the wounds soon heal. One, if not the principal, cause of the cracking of Melons is from a too limited supply of water. When the plants and fruits are young and require to grow vigorously they get into a partially hidebound state, and afterwards when the fruit expands to its natural size the skin has lost its elasticity and is forced open.

A heavy soil approaching to clay, and sufficiently rich to require nothing mixed with it, grows the best Melons. Manure makes them coarse in texture and deficient in flavour; so that when soil can be procured rich enough of itself it is better if the roots do not come in contact with manure at all.

I have said that foliage is required in proportion to the fruit. In addition to this I believe that in a hot season with a dry atmosphere, owing to greater evaporation going on, greater appropriation, too, of the juices by the fruit, and probably a greater waste also, that more foliage in proportion to the quantity of fruit is required than in a season with a humid atmosphere; but in practice the reverse of this happens. The foliage is left in the usual proportion, but the hotter and drier the weather the more it is injured by insects and scorching, and too often nothing is done to alleviate the mischief either by allowing the shoots to ramble a little, reducing the quantity of fruit, or supplying more water than in an ordinary, or even an exceptionally, wet season.

To second these remarks I may say—firstly, that my fruit on the whole has not been below the average in quality this season; secondly, that I never knew of an instance of good-flavoured fruit of any kind where the plants were badly infested with red spider, or the foliage much injured by scorching or otherwise; thirdly, that as I, in common with many others, made the mistake of planting Madresfield Court Grape in a late vinery, and am obliged to give it exceptional treatment to prevent it cracking either by withholding water or reducing its foliage (the latter method I prefer, as its roots are in company with others requiring water), I shortened it back last season to two or three leaves beyond the fruit when it was about three parts coloured, and it finished off very well without cracking. This season, a much drier one, the same treatment not only prevented cracking, but the Grapes never finished colouring, while other kinds in the same house are perfect. I have no hesitation in saying that had I left a few more leaves the Madresfield Court Grape would have finished thoroughly; but it is a difficult matter to know how to act to a nicety, and to be certain of growing this noble Grape to perfection it should be grown with the Black Hamburg or other early Grapes.

With regard to Grapes losing colour after they have once been black, I think it is in cases of insufficient

ripening that this occurs; for remember, well-grown Grapes, even of the Hamburg class, are coloured long before they are thoroughly ripe, and often swell considerably after they are coloured. I think, then, that even in the case of Hamburgs, if they are intended to be kept for any considerable time, the temperature should not be much reduced till they have been coloured a fortnight or three weeks, say nine or ten weeks after they commence colouring. When the fruit is intended for immediate use this is not of so much importance.

I find I have nearly filled my paper with preface, and I hope to go on with the subject at a future time.—WM. TAYLOR.

## A GARDEN OF HARDY FLOWERS.—No. 2.

### THE PERENNIAL BORDER.

What is a perennial border? According to ordinary examples it is a confused intermixture of hardy flowers thrown together without order, and with a predominant air of untidiness that robs it of any approach to that which is graceful, beautiful, or ornamental. This is a matter for regret, because such borders afford peculiar facilities for the enjoyment of something that is bright and lovely at all seasons of the year, and by the exercise of a little care in arranging the plants the repellent ugliness, which is the but-too-common characteristic of so many of the borders, might easily be avoided, and a scene of quiet beauty—a collection of treasures rich and rare—be offered so effectively as to render it by no means a place to avoid or a sight to disgust, as I have heard said of some of the borders to which I allude.

I happen just now to be making a perennial border, and in thinking over the matter it appears to me that there are two ways of treating this part of a garden. Narrow strips of some 5 or 6 feet wide should have the plants arranged singly, treating even those possessing the minute growth of an Alpine as specimen plants or tufts. This individuality should be strictly maintained in the body of the border, keeping all the plants far enough apart to afford "ample space and verge enough," not only for the full development of each one, but to afford an unobstructed view of it. An edging of one kind of dwarf compact growth along the front margin is as admissible as it is desirable, imparting as it does an air of neatness and finish to the whole. While graduating the plants according to height, from the dwarf edging in front up to the tallest plants behind, I would by no means confine all the tall plants to the back, but would select a few of the most striking for prominent positions along the centre to impart variety and afford relief.

In very wide borders, of say 20 feet or upwards, a bolder style of arrangement should be adopted. Groups of a dozen or more plants of the same kind, a row or two of Hollyhocks at the back, edgings and margins *ad libitum* in front, groups or colonies of many varieties of one species, or even comprising many species of one genus, the intersecting spaces being filled with mixed specimens, treated in the same way as in our narrow border. Such an arrangement would always be as interesting as it would be ornamental. The groups would form a most important feature, enabling one while enjoying the beauty of the whole to contrast form with form, to obtain a clear idea of the relative value of the different varieties, to subject new introductions to the crucial test of comparison with all the best kinds of established merit, and thus become a constant source of attraction and afford valuable instruction. If a still more striking effect is wished for, nothing is easier than to substitute bands and lines of massed colours for the mixed plants which enclose the groups, or the groups themselves might consist of one colour only; but this plan would undoubtedly rob the border of much of its merit, and I do not recommend its general application.

In proceeding to the selection of a few good kinds for beginners to start with I would ask them not to regard any of the lists as by any means exhaustive, but rather as embracing a few choice kinds to form the nucleus of future collections, which experience will enable them to add to from time to time. The plants for groups should consist of species having many varieties. Of these the Phloxes form a most important family, growing quickly into large clumps of 2 to 3 feet high, with colours ranging from pure white to deep purple. There are two species which are especially worthy of general cultivation, *P. suffruticosa* and *P. decussata*, both having numerous varieties; and as the first is early and the last late-flowering, a mixture of both is certainly desirable. Of the *suffruticosa* section we may take Pearl, William Paul, Purple Emperor, Mauve Queen, Lady Abercromby, Lewis Kidd, William Young,

Stella, Princess of Wales, John Baillie, Marquise, and Her Majesty; and of *decussata*, where we find more varied colours, we will choose Lothair, Deliverance, Amabilis, Ruby Queen, Purple Prince, Coquette de Parc de Neuilly, Madame Moisset, Monsieur Conrad, Mrs. Laing, Mrs. Dombrain, Venus, and Queen of Whites. Of Pentstemons a list has already been given. Of the Dianthus family, *barbatus*, better known by its familiar appellation of Sweet William, forms most brilliant groups. *Antirrhinums*, *Pyrethrums*, *Columbines*, *Carnations*, and herbaceous *Pæonies* are all valuable subjects for this purpose. Mr. Abbey has lately given a good selection of these *Pæonies*, and for a choice dozen of *Pyrethrums* take Progress, Virginal, Boule de Neige, Nemesis, Delicata, H. Schmidt, Sol-faterre, Princess Charlotte, Chamois, Peau Rouge, Duchesse de Brabant, and *Imbricatum plenum*.

For other prominent positions I would include many old favourites, such as Lavender, Rosemary, the old monthly China Rose, bright with gay flowers even at this late period of the year; the fine yellow Evening Primrose (*Oenothera gigantea*), Moss Roses, with some of the Delphiniums, such as *elatum* and *formosum*, with the tall-growing *Campanulas*, the *Tritomas*, and *Fuchsia Riccartoni*.

For an edging nothing can be better than a broad line of the old white Pink. The deep lavender-flowered *Nepeta tenacifolia* also forms a capital margin, while for variety we have all the *Viola* tribe; or for greater neatness and precision we may turn to such hardy succulents as *Sempervivum californicum*, *S. montanum*, and the pretty little pearly *Sedum glaucum*.

At this season of the year *Chrysanthemums* become most important in our borders. Like most popular flowers the varieties abound, being numbered by hundreds; all are ornamental, but I will select for the border—of Japanese sorts—Fair Maid of Guernsey, Elaine, James Salter, Dr. Masters, and Prince Satsuma. Of the old large-flowered section—*Jardin des Plantes*, Queen of England, Lord Derby, George Peabody, Hetty Barker, Prince Albert, Julie Lagravère, Isabella Bott, Guernsey Nugget, and Princess Beatrice. Of the Pompons, one of the most valuable is Bob, an excellent old crimson sort, with Madame Martha, Lizzie Holmes, White Trevenna, Brilliant, Firefly, Sidonia, and Atala.

For specimens and clumps of other flowers I may take *Iris germanica*, *I. amena*, *I. subbiflora*, *I. flavescens*; the *Geums*, *Narcissi*, *Liliums*, *Gentianae*, *Dodecatheons*, *Lupines*, *Campanulas*, *Anemones*, *Arabis*, *Veronicas*, *Spiræas*, with *Wallflowers*, *Poppies*, *Pinks*, *Picotees*, *Potentillas*, *Scabious*, *Foxgloves*, *Rudbeckia hirta*, *Helleborus niger*, *Arabis verna*, and all the *Rock Roses*.—EDWARD LUCKHURST.

## WINTERING LETTUCES.

MANY are the gardeners who have little or no glass accommodation, yet who are expected to have Lettuces, if not all the year round, at any rate as early in the summer as possible. Many amateurs also are there who particularly desire a supply of salads during the first warm days of summer, yet both of these—amateurs and gardeners—frequently fail in preserving their Lettuce plants through the winter. When this is the case disappointment is sure to follow, for from spring-sown seed Lettuces cannot be produced until half the summer is over, and therefore every effort must be made to preserve their September-sown plants. But it has not unfrequently happened that their plants have been killed, not by the want of endeavours to protect them, but because of the care that has been taken in sheltering the plants.

For some years I have had to grow Lettuces without the aid of either frames or hand-lights, and only once have I failed to preserve my autumn-sown plants. I shall not soon forget that failure, for throughout the months of April, May, and June the cry for Lettuces was continual, and I had none wherewith to answer it. I lost my Lettuces by what may be described as "placing all my eggs in one basket." True, it was considered as being the best basket, but that did not diminish the inconvenience of the failure. I planted all my Lettuces at the base of a south wall. What place than that could be regarded as more sheltered? None in my case, yet it failed to preserve the plants, as it has now and then failed since; but then I have had plants in other places which, though at first sight might be considered as unsuitable places, have in the end proved their worth.

The great protector of Lettuce plants during the winter is snow, and the foot of a south wall is the first place in the garden from which the snow melts. If after that a long term

of severe frost follows, the Lettuces are killed. I still plant Lettuces at the front of the south wall, and if they survive they there come into use early; but I also plant others in a very exposed place in the garden, not in rich but in porous soil, for if the water cannot pass from the surface freely the Lettuces will decay. The snow has almost invariably preserved these Lettuces from the killing effects of frost, but I generally lost many from the effects of excessive wet. To obviate this I made rather deep drills, filling these with ashes, and in these planting the Lettuces. Since adopting that practice I have seldom lost any plants. If the plants on the south border succeed, these in the open give a good succession to them; but if the sheltered plants fail by the early melting of the snow a portion of the plants are removed from the ashes on the first signs of spring and are planted in their place. Thus I manage to have a full supply of plants, and have them ready for cutting as soon as it is possible to do so with the conveniences at my disposal. To risk all my plants near the south wall is to risk failure, and to plant entirely in the open and leave them there to heart is to be unpleasantly late with summer salad; but by availing myself of the advantages of both sites I have not failed to preserve the plants and have a full supply of Lettuces in late spring and early summer—the very time when they have been most appreciated. For fifteen years consecutively that plan has been successful, and my neighbour, the gardener at the Hall, says that it is worthy of mention.

It is surprising how well the Lettuces root in pure ashes—much better than in the ordinary garden soil, and plants in the ashes are rarely injured by slugs. I suspect that the soil is too wet for the roots to work freely in the winter, but superfluous water passing quickly through the ashes and admitting the air, enables roots to form and which do not perish.

I have derived many useful hints from the *Journal* and venture to give this in return, which may possibly be useful to some other—GROOM AND GARDENER.

### THE ROSE ELECTION—STRAWBERRIES.

I NEVER before knew who raised *Souvenir de la Malmaison*. All, except Général Jacqueminot, are rightly named and accredited. The Général was raised by Rousselet, not by Rouplet. It is evidently an error; the long *s* being confounded with a *p*. I received a most kind letter from a valued friend and correspondent, Mr. Ferdinand Gloede, some time back from his place in Germany, saying that *Perle de Lyon* was better than *Maréchal Niel*. What say the rosarians of England? Mr. Gloede lives at Oppendorf or Eppendorf in Germany.

If the readers of the *Journal of Horticulture* want an opinion on Strawberries they may depend on Mr. Gloede. He is, moreover, a most excellent packer of Strawberry plants. I have received in times past Strawberry plants from Les Sablons, France, far fresher than plants packed a few miles off. You are sure of the sort applied for being sent true. I owe him a deep debt of gratitude for supplying me with Rivers's *Eliza*. It is one of the best Strawberries known. It is a tufted plant, perfect in shape, and a sure and abundant cropper at all times, and especially in critical seasons.—W. F. RADCLIFFE, *Okeford Fitzpaine*.

### DECIDUOUS TREES AND SHRUBS.—No. 3.

It is not unusual to seek to disguise the boundary of a park by a belt of trees. This is also one of the most common methods of marking the boundary of estates; but we must not lose sight of the fact that in all pleasing landscapes there is a total absence of formality, and that the aim of the planter should be to produce Nature in her best guise, not imitating her rugged, cold, and cheerless aspects. It is a mistake to limit the prospect of an estate by belts of trees or close narrow plantations, which are often obstructive of the best views of natural scenery. In treating of rural scenery, however, we often have the straight lines of hedges and roads to disguise. Surely this can be effected without employing an unvaried belt of trees. The road being straight, there is no reason for making the outline of the trees straight and having them of unvaried height and breadth. Shrub-like trees, as Holly or Thorns, will serve for disguising a road quite as effectively as taller trees. Sharp turns may be converted into graceful sweeps, or made to appear so by judicious planting—a straight margin being an eyesore. Rows of trees may often by judicious thinning be made contributory to the landscape. By

leaving all the best trees the appearance of age is imparted. It will usually be found that in a well-timbered country we have little to do but clear, adding such trees as will impart variety, though of an allied character to the trees existing. The complete removal of lines of trees from hedges would result in barrenness, and render more apparent the outlines of the roads and fences. It is the common subjects that give rural scenery its character. An artificial scene is never equal to the natural, or that in which least art and most nature is apparent. However pleasing it may be to the imagination, it is practically a mistake to imitate nature, or seek to produce nature itself in rural scenery. To do that it would be necessary to efface culture, and if by so doing no better reward attend our efforts than is exhibited by a majority of parks, the less said of such imitations the better. Provided the fences are low and well kept, they do not materially prejudice the view. What we wish to impart to highly cultivated ground is as much natural beauty as circumstances admit, having in view utility.

I will now briefly refer to avenues. These are often admired, but upon what principle they were conceived it is difficult to imagine, for we not unfrequently see them stretching across picturesque ground, cutting it in twain and marring its beauty. They may be accounted for when the view from the road is flat and uninteresting, or to confine the eye to the road by stately living walls of verdure, and leading to an object such as an obelisk, and this I take to be the main object sought by an avenue. The expression of an avenue is sombreness with dignity, affecting the spectator by its solemnity; hence we usually find avenues associated with monastic establishments, places of learning and burial, though, they are not unfrequent with manorial residences, as if to inspire visitors with a due sense of the importance of the proprietors or places. Except for promenades, walks, or drives for quiet recreation, or shady paths along a river side, for cemeteries, approaches to a mausoleum, and public institutions I do not think avenues worthy of imitation, as we suffer already by too much formality. Trees by the sides of roads form a very agreeable shade to pedestrians in summer, and are always agreeable to the eye; but the trees should be at such distances as to admit of light and air having free access between the several specimens, each having space to develop its head without coming into contact with its neighbour. It is a pity an injunction is not made to compel the planting of trees along the sides of public roads, at least those in the environs of towns.

In the disposition of trees we find little regard had to geological order by the planter. We not unfrequently find the Birch of the bog associated with the Spruce of Norway and Larch of the Alps, the Pinaster of the coast and Scotch Fir of the mountain with the Poplar and Willow of the river; and with a surface so varied as that of this country the geological order of planting is no doubt the best, for we have great variation of soil, and with water so abundant we have material wherewith to enable us to create landscapes of the greatest beauty. Hilly parts will display to the greatest advantage the towering Conifers. Rocky ground planted with them, in association with Gorse and other trees and shrubs, will enable the planter to produce an effect quite different, nevertheless in harmony, from that of the valley, where he will introduce trees of the plain—those that require rich deep soil; and near the margins of water trees requiring moist ground, such as Alder, Willow, &c., are the most appropriate.

It is sought very often to face Pines and other dark-foliaged evergreens with deciduous trees, remarkable for the rich tints of their foliage in autumn. There can be no objection to this mode of planting a hillside, where the Pines will occupy the higher ground, and all will be in harmony; but such an arrangement upon level ground is unsuitable, as the Pines in the background will be hidden by deciduous trees. I submit that evergreens intermingled with deciduous trees are undesirable. I am writing within a stone's throw of a plantation of Beech, another of Oak, and a third of Sycamore, all more or less interspersed with Conifers, the plantations being in open grove style—rather thick, but not so much so as to destroy the side branches of the deciduous trees. The Pines have tufts at the top, just as the deciduous trees close upon them, and these tufts of green have in spring and autumn a particularly fine effect when viewed at a distance or from an elevation; but I note that every year these dark tufts become less, the trees die or are uprooted by winds. The Spruces go first, having entirely disappeared from the Oak and Sycamore plantations; Silver Firs struggle hard for existence, and Scotch



Firs still more fiercely; but the Sycamores have completely overpowered them, and in a few years they will be gone, leaving nothing but deciduous trees. Planters may seek to produce combinations of evergreen with deciduous trees, but such combinations especially intermingled must not be looked upon as permanent, though if arranged so that the deciduous trees appear in the low or foreground with the evergreens at back they will go on for generations increasing in size, age, and beauty. Mixed up, as is the fashion, the deciduous trees will overpower the evergreens, driving them from the valley to their home in the hills, where they can tower in grandeur becoming those elevations which they so befittingly adorn.

The claim of Conifers is great (none greater than the Larch, which I shall have occasion to allude to again), and yet their use in ornamental gardening is carried to such a pitch of extravagance as to give a monotony of dark frowning forms which need, I think, considerable modification by the introduction of lighter-foliated deciduous trees and shrubs.—G. ABBEY.

### HARDY ANNUALS FOR SPRING DECORATION.

HAVING observed that these "charming simple flowers" are considered worthy of attention, and having noticed a remark that they are only grown for spring decoration in large gardens, I desire to say that in at least one garden of moderate size they have long been employed extensively. In my endeavours to render the garden as attractive as possible, as well early in the spring as late in the summer, I have found autumn-sown annuals quite as indispensable as bedding Geraniums. These annuals, too, have always attracted more attention than the Geraniums, not only from those who might be regarded as having a special fancy for annual flowers, but from ordinary visitors, who could not resist expressing their admiration on seeing a garden in April and May bright with flowers, when their own beds were empty and cheerless.

Without further expatiating on the charms of hardy annuals, I will make the bold assertion that those who have not grown them by sowing the seed in autumn and flowering the plants in spring, or have not seen plants so grown by others, know nothing of the beauty of this class of garden flowers. The plan of sowing hardy annuals in the spring and leaving them thickly in lines or clumps to struggle out their brief existence as best they may, is not justice to them. As well may Lettuce seed be similarly sown, and the plants be treated in the same manner, and the practice be dignified as growing Lettuces. An individual plant of, say, *Silene pendula*, *Nemophila insignis*, or *Convolvulus minor*, requires quite as much room to perfect itself as does a Lettuce plant; yet while a square foot of ground is generally afforded to one plant of the latter, it is not by any means uncommon to find the same amount of space considered sufficient for fifty or a hundred plants of the former; and that is called growing annuals, and annuals are termed weeds, rubbish, transient fly-a-ways, and not deserving of a place in a garden. Judgment such as that is a libel on the annuals. The judges themselves are the criminals in denouncing the flowers which they first abused, for instead of having assisted them to grow they have prevented them from growing by the unnatural treatment to which they have been subjected.

It is the nature of hardy annuals to be sown in the autumn, as much as it is the nature of Wheat to be sown at that period. If Wheat is sown thickly late in the spring the crop is poor and the grain small, but if it is sown in the autumn thinly it produces massive heads of "golden grain." So with annuals; if the seed is sown thickly in the spring and the plants are untended they flower prematurely, and the flowers are puny and the plants miserable—quite unworthy of a place in the garden; but if the seed is sown in the autumn, and the plants are properly thinned and cared for, then is the result indeed different, for the plants instead of being puny become luxuriant, and their beauty instead of being transient is lasting—continuing often longer than is required, but always long enough to well reward for the rational cultural attention that has been bestowed on them.

I have sown seeds of *Convolvulus minor* in September—the rich dark variety known as tricolor—tended the plants through the winter, planted them in a rich and well-trenched bed in March, and they have commenced flowering in May, and have continued until October, most of the time presenting a glow of colour unequalled by any other bed of flowers of the same hue in the garden. That is an extreme case, and annuals are not usually required to flower nearly so long as that. The

beds are required for Geraniums, carpet bedding, or sub-tropical plants. The two last modes of decoration are now popular, and neither system can be commenced with until the first or second week in June, especially when *Alternantheras* must form a considerable part of the carpet-bedding arrangements. Beds of bare soil are endurable until May, but from the commencement of that month until the summer days and nights of June come in every day seems a week, so blank and dreary is the garden. Flowers you may find in fields and woods, in lanes and in hedgerows, on the mountain side and the streamlet's banks; but the flower garden excepting the *Daisies* on the lawn is flowerless. But it need not be so dreary, for throughout May it may be in its very brightest and most cheerful garb with annuals, and which are not only charming but accommodating, and will step out of the way just in time for the carpet bedders and subtropicals. Thus with the judicious use of annuals judiciously grown, a garden may be made to possess a double season of beauty, and with much less than a double outlay of cost and labour.

It is only right, however, to say that when autumn-sown annuals are grown some additional labour is incurred and must be provided if the plants are to be grown well, and if they cannot have justice done to them it is better not to attempt growing them at all. Yet when the labour is provided, and the beds are produced in good order, few can begrudge their cost, and fewer can ignore their beauty.

Who can inspect close pink masses of *Saponaria calabrica*, especially when surrounded with the white variety, the sprightly blue of *Nemophila insignis*, the richer hue of *Venus's Looking-glass*, the yellow of *Lasthenia californica* and *Limnanthes Douglasii*, and not admire them, to say nothing of those annuals of bolder growth—the *Clarkias*, *Viscarias*, *Larkspurs*, &c.? All these and many others are much finer when sown in autumn than when sown in spring.

This, however, is not the time for sowing hardy annuals. On the contrary, plants of *Silenes* and *Forget-me-nots* ought now to be 6 inches across, and those of the others should be well above ground. But if this is not the time for sowing the seed, it is the time for thinning the plants. Without proper and timely thinning, plants of hardy annuals cannot be expected to endure the winter's severity. It is the thinning-out of the plants that makes them hardy; if allowed to grow thickly together they become tender. A small solitary plant of *Groundsel* or any other indigenous weed will pass the winter uninjured, but a crowded group of these weeds made tender by the crowding cannot resist the severity of the weather. It is precisely the same with hardy annual flowers, which are hardy or tender according to the treatment that is given them. Every plant should be clear of its neighbour, then will its tissue become hardened and its habit be sturdy, enabling it to pass with safety our ordinary winters. Yet should the frost be extremely severe and no snow on the ground and plants, a little protection may be necessary, but the work of lightly laying over the beds dry tops of *Asparagus* (minus the seeds), or a few branches of evergreens is only the work of a few minutes, and will not be begrudged when success is attained.

Then how charming are hardy annuals when flowering in pots in the earliest days of spring! I cannot conceive, for instance, how plants of *Nemophila insignis* can be dispensed with for conservatory fringes, for baskets, stands, and other ornamental contrivances which gardeners are expected to furnish with flowers. Formal upright flowers we have in plenty, such as bulbs, *Azaleas*, *Cinerarias*, &c., but drooping plants are indispensable for the complete decoration of a conservatory or room, and these are afforded by trailing annuals. All the care these plants require is a frame in which to pass the winter, and a shelf near the glass to assist them in unfolding their flowers in the spring. With this little care and copious supplies of manure water plants are produced which are totally distinct from all surrounding them, and which surprise those seeing them for the first time, not only by their inherent beauty, but by their lasting properties.

Because I have seen hardy annuals so greatly admired in the spring, both in pots and in beds, I have always endeavoured to provide them; and because their culture is within the means of almost everyone having a garden that I say a word in favour of these "charming simple flowers."—A NORTHERN GARDENER.

### DIOSPYROS KAKI.

THE readers of the Journal who were thinking of investing half a guinea in the purchase of a small specimen of this plant

have reason to thank Mr. Wilson for giving his experience, and will probably withhold their orders until they hear a better account from other quarters. As the plant, according to the "Cottage Gardener's Dictionary," was introduced into this country as far back as 1789, and is mentioned by London as a greenhouse fruit tree, it might be assumed that if the fruit were worth having it would long before this have been generally cultivated; and had Mr. Wilson simply pronounced the fruit inferior to our ordinary English fruits I should not have troubled you with this letter, but his report is so very unfavourable that I must express a doubt whether this "Pear tree of Jove" in some of its varieties may not behave better.

A letter from Japan informed me that the Kaki was the best fruit there. Margary in his Journal mentions the abundance of the tree in China, though it is possible that the trees were wild. Perhaps Mr. Wilson has overlooked the statement made by Don, that the fruit of every variety of *Diospyros*, and notably of the Virginian tree, must be allowed to blet like the Medlar, and I have understood it is all the better for frost. If Mr. Wilson has any fruit left, perhaps he will kindly try whether keeping it diminishes its austerly.—G. S.

### OUR OLD ROSES.

WHAT changes have come over the queen of our gardens! Interesting and instructive as "Election of Roses" may be to many of your readers, how few of us can keep pace with the times. I would be glad to enter the arena, but cannot for ever be discarding and adding Alfred Colomb and Marie Baumanns to the limited stock. In days long past with what delight we used to tend such Roses as Rivers's George IV., Russelliana, Madame Campan, Las Cassas, Great Western, Madame Desprez, and we thought when we procured Giant of Battles we had arrived at the end of the chapter. The last-named Rose was expected to have a very prominent place as a Rose for bedding purposes, but having such a tendency to mildew had to be discarded. Coupe d'Hébé was thought to be the model of a Rose, and Lamarque used to be very highly esteemed, and with some still holds its own. Such Roses as Baronne Piévozt and Colonel Rougemont we cannot do away with; and we used to think that Paul Ferras, Charles Lawson, Princess Matilda, and the like, would never grow old. We retain them still, and shall not give them up. Our affections still cling to that grand old Rose the Provence Cabbage and its compeer the old, old Moss, a staunch old friend. I wish the Bath White and Timewell's Moss would grow as well. Charles Duval still retains his merit in my estimation; and the Crested Provence Rose is one of the most lovely Roses in cultivation.

It is grievous to see how low in the scale that much-lauded Rose has sunk—I mean Gloire de Dijon. I shall never forget the praises lavished upon it when it first made its appearance among us. I used to think we should never need another Rose introducing; but the light of other days has faded, but still "old Glory" holds a place in our affections, and is generally esteemed. In our youthful days we used to have a Rose called Smith's Yellow Noisette; it was a grand achievement to cut a few blooms in February and March of this variety from the forcing house, but we see nothing of this Rose now. My ideas may be vague, but I have a great liking for the double Persian yellow Madame Angelina, she is so charming in bud; also for Bourbon Queen, Joséphine Matton, Devoniensis, Niphetos, Elize Sauvage, and Goubault.

Jean Desprez and Ophirie are fine for borders. We were to have something very superior in Cloth of Gold and Isabella Gray, but they are too unmanageable. Of course the Marshal has his proper place. I still cling to the old Damask known as the York and Lancaster—beautiful in bud and that is all.—Rosa.

### CHAPTERS ON INSECTS FOR GARDENERS.

No. 13.

THE genus *Phylloxera*, represented by such species as *P. coccinea*, *vastatrix*, and *quercus*, presents such strange anomalies that our entomological leaders are puzzled as to its place in this order. Like the scale insects, the females are oviparous, but the parents do not die off to furnish a protective coating for the young. In several instances broods in various stages of growth reside within galls formed on the roots or branches of the plants they attack, the *Phylloxera* resembling the Aphides, in their succession of summer broods consisting only of females. Excellent, therefore, as are some of the remedies proposed, they have this awkward circumstance

against them, that owing to the secluded habits of the majority of the *Phylloxera*, the killing agent cannot be placed near enough to them. As to their rapid multiplication, on the Oak leaves during July or August there may be observed, where the insects occur, a dozen or more of females upon a single leaf, each surrounded by her batch of more than a hundred eggs, regularly arranged in circles. Some very startling statements have been published about these *Phylloxera* by the French naturalists, and not all of these have been verified as yet by sufficient observations. But it seems pretty well ascertained that the Vine-eaters, under certain conditions of their life, migrate to the Oak, and the reverse operation also occurs. Then the root-infesting *Phylloxera*, which are, for many generations, entirely subterranean in habit, are continued through a limited number of years by wingless females, until they die out, new colonies of the *Phylloxera* being propagated by the winged specimens bred from the leaves. And if we could credit M. Balbiani, that some females only deposit a single egg at the period when the winged development occurs (though another naturalist deems this a pupa), we should deem the

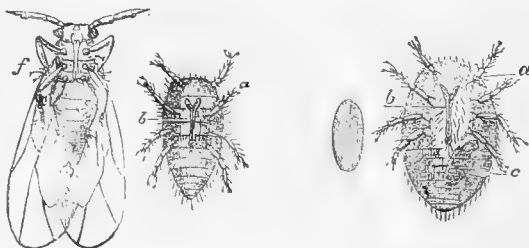


Fig. 66.—*Phylloxera vastatrix*.

Female specimens and their eggs. *a*, antennæ; *b*, horns or suckers; *c*, egg plainly visible in the body of the insect; *f*, winged form of the insect. All magnified.

*Phylloxera* pre-eminent amongst their brethren on account of their peculiarities.

We come next to the Coccidæ or Scale Insects, which have been so named from the singular structure of the females, which are invariably devoid of wings. It is so ordered that by their habit they furnish a remarkable illustration of "life in death." The scale, attached to some trunk or branch, and which differs much in size in different species, a large example being that discoverable on the Vine, is the carcase of the parent insect, from which, by an odd transformation, disappear all trace of segments, legs, antennæ, and head, leaving only the shield-like convex ridge of the upper surface of the body, on raising which we see a white or yellowish substance. In this are enclosed the eggs, which sometimes hatch out speedily, sometimes continue unchanged from autumn until spring. Whether the young larvæ are partly nourished as well as protected by the relics of their diseased parent is not certain. The newly-hatched Coccoi, however, soon begin to suck the juices of the plant by the aid of the rostrum or "beak," but though they are occasionally written of as active, their activity is of a very moderate kind. From the extremity of the body spring two longish tails or bristles, which perhaps serve as balancers, or they may be connected with the breathing apparatus; but they do not abide through the whole of the larval life.

In the case of the Coccoi that are about to pass the colder months of the year as larvæ, towards the end of the summer it will be found that they have distributed themselves on the younger shoots, finally quitting the vicinity of their parent, and rousing to renewed activity in April. Should these be left undisturbed, ere long we notice that some of them continue to increase in size, while the others cease to grow. The females, indeed, pass, without any marked gradation, from the state of larva to that of imago, and, until they are impregnated, still draw up the sap; the males, ceasing to feed, become pupæ, and emerge as winged insects. They again exhibit the bristly adornments perceivable in the larvæ, and the pair of delicate wings, sometimes of very gaudy tints, cross each other. Though well able to fly, locomotion is more frequently performed by them in a series of hops or skips. This description may be taken as applicable to the yearly round of life in most of the outdoor Coccoi, such as that haunting the Sycamore, or that feeding upon our Hawthorn hedges. The latter species has, I think, become more numerous of late, though scarcely capable of effecting any important injury to this shrub, which has so many more dangerous foes. Under glass, where vari-

ous species of the scale insects love to congregate, disturbing the horticulturist's equanimity, and forcing him to infect the atmosphere with unpleasant odours, their proceedings cannot be counted upon with certainty. Occasionally there would seem to be two broods in a season.

So deadly is the influence exerted upon some plants by scale, apparently out of proportion to the exhaustive effect of their mere sucking, that theories have been suggested by speculative persons giving other explanations. It has been thought that the Coccæ may give out some hurtful secretion, or that by their hold upon the young twigs they thwart the natural growth and impede respiration or assimilation. Small consolation is it to be told of the benefits bestowed upon us by some of the Coccidæ; and even as no one, Shakespeare being witness, can hold fire in hand by thinking of the Arctic regions, so is it impossible to excuse the scale, which, if permitted, would swarm over our choicest plants in the hothouse or pinery, for the sake of its valuable brethren, which, in sunnier lands, yield that useful product lac, or the splendid colour which is obtainable from cochineal. Some years ago I read particulars of a scheme for the introduction to this country of the Mexican species (*Coccus Cacti*), which, it was supposed, under skilful management, might prove a new source of national revenue. As no recent details have been published, I presume the matter has been dropped.

That choice plant the Pine Apple, and the favourite exotic Orange Tree, have each their enemy of the Coccus tribe, though both these pests are occasionally found on other plants or trees; the Pine Apple Scale (*Aspidiotus bromeliæ*), clustering sometimes on Malvaceous plants. The Vine Scale (*Lecanium vitis*) is so conspicuous where it occurs that its destruction by hand-picking is comparatively easy, and it only affects Vines under cover. The Turtle Scale (*L. testudo*) is one of the commonest, frequenting our conservatories, escaping notice often when it has placed itself on the leaves of plants. The Coccidæ are not without their insect parasites, some of the four-winged flies belonging to the family of the Chalcidæ deposit eggs amongst them, and they have doubtless other parasites as yet unrecognised by us.—J. R. S. C.

### THE NATIONAL AURICULA SOCIETY.

My attention has been directed to the paragraph at page 425 by "D., Deal," in your last week's issue—viz., "The National Auricula Society will not hold its Show in London," and I am to request your permission to say this paragraph is quite inaccurate and can only mislead.

Not only is there no refusal on the part of the Society to hold the Show in London, but the suggestion to hold it comes from the Honorary Secretary and other of its principal members; and every step taken and to be taken has been, and will be, in full accord with Mr. Horner's mind. Had "D., Deal," said the London exhibition of the National Auricula Society is not proposed to supersede the exhibition of the same Society at Manchester he would have recorded a fact, and one rejoicing to the hearts of florists.

It has been arranged by the Crystal Palace Company to hold the National Auricula Exhibition for 1877 at the Palace on Tuesday, April 24th.—E. S. DOWELL, *Hon. Sec. pro tem.*, London Division, National Auricula Society.

### BRIXTON HILL CHRYSANTHEMUM SHOW.

CHRYSANTHEMUMS are the princes of autumn flowers, and if we want to see them in fullest beauty we must visit the metropolitan shows of them. The plants at a few shows have been noticed—the tall robust specimens at the Temple and the Crystal Palace; Mr. Turner's upright-trained plants, so fine for the sizes of their pots; Messrs. Veitch's sturdy specimens and splendid blooms; and Messrs. E. G. Henderson's luxuriant plants at South Kensington. But distinct from all these were many plants at Brixton which were artistically trained, proving, as so many other similar exhibitions have proved, the great tractability of the Chrysanthemum when handled by skilful cultivators.

The Brixton, Streatham, and Clapham Horticultural Society was established nearly twenty years ago for "promoting the superior cultivation of plants, fruit, and vegetables by means of exhibitions, at which all members may enter into friendly competition." The district, being salubrious, has been chosen by many gentlemen for their residences, gardeners are consequently numerous, and horticultural exhibitions have improved yearly. The last was held in the Holy Trinity schoolroom on the 17th and 18th inst., and was an undoubted success. The spacious

room was not only crowded with Chrysanthemums and other flowers, fruit, and vegetables, but the attendance of visitors, especially during the evenings when the room was well lighted, was enormous; the dense crowd, in fact, demanded a building of at least three times the size to have enabled them to enjoy the Exhibition in comfort. Neither was it a concourse of mere sightseers visiting the Show for momentary gratification, but the majority were evidently earnest workers in the floricultural hive, and were diligent in jotting down names and "wrinkles," such as might be of service to them individually. It was gratifying to notice this assiduity on the part of so many in adding to their stores of knowledge, and was a complete answer to the question—half cynical, half sceptical, which one is often compelled to hear—"Of what use are flower shows?"

Another episode of this Show may be noted, which is as gratifying as it is rare. When noticing the Chrysanthemums in the Temple Gardens we remarked on the power of a Rose show in subduing a prizefighter and transforming him into a rosonian, but at the Brixton Show an ex-pugilist of more than ordinary renown vanquished all comers in the premier class for cut blooms, the conqueror of J. C. Heenan having proved victorious with twenty-four splendid blooms, staged by his gardener, Mr. Lee. Mr. King, the "Tom King" of history, is a gentleman highly esteemed in his neighbourhood, a good supporter of the Society, and a great lover of and an earnest cultivator of plants. The peaceful pursuit of horticulture is now followed by one who once in another and widely different sphere was "earnest for his country's fame." We have only to say now that Mr. King's blooms were veritable champions, or, as a bystander appropriately described them, "regular stunners." Mr. King was also first in the "maiden class," this having been his first time of exhibiting.

The most noteworthy plants in the Exhibition were unquestionably the six large-flowered specimens staged by Mr. Hall, gardener to W. Stevens, Esq., Lower Tulse Hill, in Class 1, and the six pyramid Pompons in Class 3 belonging to the Rev. W. Arthur, Clapham Common, and grown and exhibited by his gardener, Mr. Harding. The plants in these two collections attracted the lion's share of notice as being admirable examples of skilful cultivation. Mr. Hall's specimens were by no means the largest in the room, but for health, vigour, symmetry, and finish they were such plants as many aim to produce and but few succeed in producing. They were in 11½-inch pots, the plants being flattened semiglobes 3 to 3½ feet in diameter, each plant containing fifty to seventy perfect blooms, each being set in its right place and surrounded with foliage, the leaves being continued to the bases of the stems and the centres of the plants. These plants were so tied that the blooms were not more than 18 inches from the surfaces of the pots, and the stakes were scarcely visible. This almost perfect half-dozen plants comprised Mrs. George Rundle, Prince of Wales, George Glenny, Faust, Mr. Brunlees, and Lady Hardinge. Mr. Harding's Pompons consisted of the three Cedo Nullis, lilac, white, and yellow; Bob, Madame Martha, and Antonius. All of these were exceedingly fine, especially Bob and Madame Martha, probably the best dark and the best white varieties in cultivation. The plants were in 8-inch pots, and were about 2½ feet in diameter at the surfaces of the pots, and were about 3½ feet high—perfect cones, each terminating with a point, and not a stake was visible. Each plant had a clear single stem; and the flowers, which were fine, having been carefully thinned, covered every part of the cones, the number of flowers on the largest plant probably being three to four hundred. The second prize in this class went to Mr. Livermore. Mr. Harding also secured the first prize for three plants "not pyramids," Mr. Betts being placed second. These were of semiglobular form, about 2½ feet in diameter, and not far exceeding a foot in height from the surface of the pots. The varieties were Madame Martha, Bob, and Mr. Astie. Mr. Harding also secured the second prize in the specimen class with a handsome pyramid of Madame Martha; Mr. Livermore, gardener to F. Webb, Esq., Streatham Hill, winning with an admirable specimen of Mrs. G. Rundle, 4 feet in diameter, and carrying seventy blooms; Mr. Hall securing the third place, also with a large-flowered variety.

Mr. Harding's plants are particularised in order to dispel a very prevalent yet erroneous idea, that such specimens cannot be exhibited except by large growers—that is, by those having a large number of plants to choose from. We are able to vouch for the fact that Mr. Harding commenced the season with only eleven plants, and ten of them are those above noticed. The garden in his charge is small, the houses being also miniature structures, therefore he wisely limited his plants to under a dozen, and growing them well instead of including a great number of varieties and growing them indifferently. Two useful deductions are derivable from Mr. Harding's success—the necessity for properly estimating conveniences and not attempting too much, and that a few plants well grown are more creditable and satisfying than a large number of what Mr. Luckhurst designates "miserable starvelings." Mr. Weston, gardener to D. Martineau, Esq., Clapham Park, well known as an experienced and

skilful grower, was awarded the second prize in Class 1 for healthy, compact, medium-sized specimens 2 to 3 feet across; the third prize going to Mr. Young, gardener to T. Hicks, Esq., Streatham Hill, for plants 4 feet in diameter, but rather widely staked-out. Mr. Harrington staged plants too late for competition, otherwise they would have secured a share of the honours, as they did of public approval.

In the class for three large-flowered specimens excellent plants were staged, Mr. Young securing the first place with well-shaped plants 4 feet in diameter of Mrs. Dixon, Mrs. G. Rundle, and Guernsey Nugget; Mr. Hall was second with smaller and more compact specimens of Lady Hardinge, Venus, and Mrs. Haliburton; and Mr. Livermore third, also with good plants. In this class the Judges awarded the palm to size of plants; in Class 1 to symmetry and compactness. Mr. Hall's Mrs. Haliburton was a model of good culture, almost every bloom being perfect. For six dwarf Pompons Mr. Weston won with "pau-cakes" 3 feet in diameter of Aglaia, Cedo Nulli, Golden Cedo Nulli, Regulus, La Sultana, and Antonius, but the plants had been too recently tied, the flowers "looking sideways." Mr. Hall had the second place with smaller and more naturally trained plants. Standards were not good, the only award going to Mr. Livermore for plants with stems  $3\frac{1}{2}$  feet high, and rather loose heads 18 inches in diameter.

In the classes for cut blooms the display was extensive. The boxes extended to a length of about 100 feet, and the effect of the many-coloured flowers was very imposing. The blooms were not remarkable for their prodigious size, probably on account of the earliest sorts (which are the largest) having been past their best, yet the quality was good. In the class for twenty-four blooms the prizes were awarded to Mr. Lee, gardener to T. King, Esq., Lower Tulse Hill; Mr. Ottaway, gardener to T. Hepburn, Esq., Clapham Common, who were placed first and second respectively; Mr. Howes, gardener to Mr. Butler, Tulse Hill, and Mr. Livermore were equal third. For twelve blooms the honours went to Mr. Crisp, Mr. Ottaway, and Mr. Holmes in the order named; and in the class for six blooms where ten competed the winners were in the same places, substituting Mr. Howes for Mr. Holmes as the third prizewinner. The best blooms in these classes were Mrs. Heale (finest of all), Princess Alexandra, Empress of India, Jardin des Plantes, Prince of Wales, Prince Alfred, Mr. Gladstone, Cherub, Mr. Brullees, John Salter, Hero of Stoke Newington, and White Globe. The above were the largest. Smaller but equally good were Eve (very lovely), Mrs. G. Rundle, Lady Slade, George Glenny, Barbara, Miss Hope, White Beverley, Venus, Baron Beust, and Aurea multiflora, Mrs. Dixon, and Fingal. Mr. Livermore and Mr. Ottaway were the winners with large Anemone-flowered varieties. The best blooms were Empress, Louis Bonamy, Prince of Anemones, Acquisition, Fleur de Maie, Gluck, King of Anemones, and Mrs. Pethers. The same exhibitors, with Mr. Wells, were successful with cut blooms of Anemone Pompons, who each staged attractive collections, which were honoured with a large share of appreciation by the visitors, who were so intent on "taking names" that the stands could only with difficulty be inspected. The best varieties in this section were Regulus, Marie Stuart, Fire King, Perle, Mrs. Wyness, Calliope, Madame Montels, Antonius, Mr. Astie, Sidonia, Dick Turpin, and Madame Challenge.

Besides the Chrysanthemums, prizes were offered for sundry other plants, also for fruit and vegetables. Mr. Legg, gardener to S. Hall, Esq., was a successful exhibitor of Orchids—good *Calanthes* and *Odontoglossum Roezlii*; also Mr. Weston, who staged *Cymbidium Mastersii*, *Maxillaria picta*, *Sophronitis grandiflora*, and *Cypripedium insigne*. In fine-foliaged plants Mr. Legg won in the single specimen class with *Nepenthes Rafflesiana*, having sixteen pitchers. Mr. Hall was the winner in the class for four plants, and staged bright and healthy examples of *Livistonia australis*, *Dracena Cooperii*, *Ananas sativa variegata*, and *Alcacia metallica*. Others successful in these classes were Mr. Wells and Mr. Wright, gardener to M. Voss, Esq., Streatham Hill. Good Ferns in 10 inch pots were staged by Mr. Young; Mr. Davey, gardener to B. Drew, Esq., Streatham; and Mr. Crisp, who were placed in the order of their names. Ferns in 6 inch pots were numerous and excellent, and Mr. Wright; Mr. Stapley, gardener to W. H. Walsley, Esq., Clapham Park; and Mr. Cherry, gardener to R. Slee, Esq., Streatham Hill, were well deserving of their prizes. Primulas were numerous, and the plants generally were very healthy and fine, but had not attained to their best flowering state. The awards for eight plants went to Mr. Fulbrook, gardener to B. Baker, Esq.; Mr. Halliday, gardener to J. Olney, Esq., Balham; and Mr. Hall. Classes were provided also for berry-bearing plants, sweet-scented plants, and table decorations, in all of which there was competition.

Fruit was well exhibited. Mr. Davey, gardener to B. Drew, Esq., Streatham, was placed first in the class for four distinct dishes with a Pine Apple, good Lady Downe's Grapes, Chantrelle Pears, and Duncan Apples, the remaining prizes going to Mr. Rockell, gardener to F. Falconer, Esq., Clapham Park,

and Mr. Cherry. For four dishes of Pears Mr. Brooker, gardener to J. Kolle, Esq., Tulse Hill, Mr. Hall, and Mr. Cocks, gardener to G. T. Cundell, Esq., were placed in the order of their names. The best dishes included Marie Louise, Beurré Diel, Beurré d'Arenberg, Beurré Bosc, Beurré Bachelier, and Chaumontel. The best kitchen Apples were Blenheim Pippin, Emperor Alexander, and Cox's Wax Pippin; and the best dessert Apples were Ribston Pippin, Cox's Orange Pippin, and Cockle's Pippin. Of Grapes there was a very creditable display. For three bunches of Black Grapes Mr. Davey won with Lady Downe's, fine in appearance and good in quality. Mr. Cherry, gardener to R. Slee, Esq., Streatham, was second with Black Hamburgs of superior quality, but rather deficient in colour; equal third prizes going to Mr. Ottaway for fine-looking Alicantes but deficient in flavour, and Mr. Davey for full and attractive bunches of Black Prince. Messrs. Rockell, Cocks, and Cherry were successful in the Muscat class, and Mr. Davey was "all alone in his glory" in the class for Pine Apples.

Very good vegetables were exhibited. In the class for any number of varieties Mr. Livermore was placed first with a collection suggestive of a well-stocked garden. Almost every vegetable in season was represented, from Chinese Yams to Tomatoes, nearly every dish being of superior quality. Mr. Wright had the second place with a contribution of nearly equal merit. For eight dishes Mr. Davey was placed first, owing principally to his good Cucumbers; Mr. Harding was second, Tomatoes and Vegetable Marrows placing him ahead of Mr. Horsham, who had the third prize with produce which was generally overgrown. For Cucumbers Mr. Cherry won with The Hero; Mr. Young and Mr. Davey following with Telegraph.

Such is a sketch of this excellent Show. The Society started in a small way, but by unity and perseverance has achieved a creditable position. It has the advantage of a practical committee, and an active and courteous secretary in Mr. Goldsmith.

#### WIMBLEDON HORTICULTURAL SOCIETY.

This flourishing Society held a show of Chrysanthemums, fruit, and table plants at the Lecture Hall on the 15th and 16th, and some praiseworthy collections were brought together. The splendid bank of plants, 30 feet by 10, staged by Mr. Lyne, gardener to A. Schlusser, Esq., Belvedere House, Wimbledon, was the admiration of everyone. Some Sugar Canes, forming a background, sent by Mr. Ollerhead, gardener to Lady Peek, made up a very attractive group. Mr. Smith staged an effective group of twelve miscellaneous plants, which contained amongst them *Paulinia thalictrofolia*, *Dracena metallica*, *Croton interruptum*, and *Yucca aloifolia variegata*, all well grown and beautifully coloured; two plants—*Croton variegatum* and *C. Johannis*—were especially well finished. Mr. Bridger, gardener to F. B. Thomas, Esq., East Hill House, Wimbledon, staged a good collection; and collections of fine-foliage plants were also sent by Mr. Ollerhead, Mr. Lyne, Mr. Stratton, gardener to Miss Forbes; and Messrs. Thompson, nurserymen, of Wimbledon. Mr. Bridger and Mr. Elliott exhibited collections of Scarlet Geraniums, which, for the season of the year, were particularly fine. The principal exhibitors of cut blooms of Chrysanthemums were Messrs. Whittaker, Bentley, and Burden. Mr. Appleby, the Secretary, also staged a very creditable collection. Fruit was shown in large quantities by Messrs. Lyne, Fanning, Ansell, Tucker, and Chapman. Mr. Lyne's collection comprised twenty-two dishes, the whole being of superior quality.—M.

#### DARTFORD CHRYSANTHEMUM ASSOCIATION.

The sixth annual Exhibition of this Association was held in the Victoria Assembly Rooms, Dartford, on November 15th and 16th, and both specimen plants and cut blooms were shown in excellent style. The amateurs' productions were especially superior, notably the collection of Mr. H. R. Hards, which contained fine examples of Empress of India, St. Patrick, Isabella Bott, Prince Alfred, Golden Queen of England, Lady Hardinge, G. Glenny, and Mrs. G. Rundle. Mr. C. White, another amateur, had good examples of G. Glenny, Mrs. Rundle, and Gloria Mundi. The following also obtained first prizes as amateurs: Messrs. Evitt, Lanyon, and Southernden. Among gardeners: E. Ryder, Dancer, Carter, Brown, Pendred, and Shaw were successful. The magnificent plant of Mrs. G. Rundle shown by Mr. Dancer, gardener to G. H. W. Porteus, Esq., deserves a word of praise. It was 4 to 5 feet through, trained in a somewhat flat bush-like form, and had from 150 to 200 good blooms. The Society is to be congratulated on the success achieved, for the arrangements of the Show were well carried out by Mr. Shelton, the Hon. Sec., and his able colleagues.—J.

#### VERONICA BLUE GEM.

THANKS to someone who on page 406 of our Journal has noted Veronica Blue Gem as a valuable plant where cut flowers are in demand. The plant I have under the above name



appears to be a diminutive species of *Veronica speciosa*, and is hardy in some places in the north. It is deserving a place in all collections. Too much cannot be said in its favour for either in or out door decoration. It is now in full bloom both in and out doors; its small bright foliage and lovely flowers are beautiful in the frost and snow that now surrounds the plants. It thrives well in any ordinary garden soil; it is readily increased by cuttings or division.—NORTHEMAN.

### NOTES AND GLEANINGS.

WE understand that a CONFERENCE OF ROSE EXHIBITORS AND ROSE GROWERS will be held on Thursday, December 7th, at the Horticultural Clubhouse, 3 and 4, Adelphi Terrace, at 2 P.M., for the purpose of devising some satisfactory arrangement as to the future of Rose shows, &c. Amongst the subjects to be discussed will be the formation of a National Rose Society or Club, an idea which was started at the last Hereford Rose Show; the abolition of two-day Rose shows; and the revival of the National Rose Show, which was merged some years ago in that of the Royal Horticultural Society, and has fallen through. Already many of the leading rosarians, both amateurs and professional, have signified their intention of being present, and we are requested to state that circulars will be sent to all Rose exhibitors as far as known; but should any be inadvertently passed over, it is hoped that they will consider this notice as sufficient. There will be a dinner after the conference is over.

— IN another column will be found a report of the BRITON CHRYSTANTHEMUM SHOW, in which a noted ex-pugilist proved a veritable champion. Other Chrysanthemum shows have recently been held—at Woolwich, Hackney, Lambeth, Stratford, &c.—proving that the Chrysanthemum is a great favourite with Londoners, and deservedly so, for no flower gives better returns to the cultivator. None braves metropolitan smoke so well, and penetrates November fogs with flowers of equal purity and beauty. Excellent plants and superior blooms have been staged at all the exhibitions, and young growers are vying with the "old hands" as earnest and skilful cultivators.

— A CORRESPONDENT, "J. P.," informs us that Williams' SILVER BALL TURNIP is a variety of the greatest excellence. He states that he sowed seed of it, also of three other sorts, at the same time, and Silver Ball was not only the earliest, but it continued in use long after the others had run to seed. He says also that the cook prefers it to all other sorts, and he intends to grow it exclusively in the future.

— MR. D. LUMSDEN, Bloxholm, writes to us that on looking over his POTATOES the late sorts, such as Paterson's Victoria, Dunbar Regents, &c., are found to be extensively diseased; indeed they are as bad as ever they have been seen in that neighbourhood; but that all the early garden varieties have escaped the disease.

— "OBSERVER," writing further on GRAPE-GROWING, states that all the four Vines mentioned on page 423 were stocks, and that he ought to have written "The influence of one stock on another," instead of "The influence of the stock upon the scion."

— IN reference to STRAWBERRIES IN NOVEMBER Mr. Frisby of Blankney writes that he has had plants sent to him under the name of Viscomtesse Héricart de Thury which proved identical with the sort he grows as Garibaldi. He considers this the best forcing Strawberry, and grows from twelve to thirteen hundred pots of it. In April the early-forced plants are planted in rich soil, and always produce good crops of fruit in the autumn, and he has now plants in full flower and fruit. A correspondent in Lincolnshire also alludes to the valuable autumn crops of Strawberries which he has seen at Blankney, and states that Garibaldi and Viscomtesse Héricart de Thury are considered in that district as being synonymous. Mr. Lumsden of Bloxholm is also of that opinion.

— MR. HALLIDAY, late gardener to Admiral Popeham, Carden, Forfarshire, has been appointed head gardener to Mrs. Wemyss, Wemyss Castle, Fifeshire. Mr. Judd, who has recently been appointed gardener at Warwick Castle, was gardener at Hawkstone, not Oton, as previously announced.

— WE learn that a NATIONAL AURICULA SHOW will be held at the Crystal Palace on April 24th. The Crystal Palace Company have offered £10, and other contributions of £5 besides small sums are already promised towards the prize list. The

northern growers are willing to co-operate with their southern friends, and an exhibition of more than ordinary magnitude is anticipated. F. Whitbourne, Esq., Loxford Hall, is appointed President; Mr. Turner, Slough, Treasurer; and Mr. E. S. Dodwell, Larkhall Rise, Clapham, Honorary Secretary of the Society.

— THERE is now flowering in the Crystal Palace for the second time this season an old but useful greenhouse plant which is not now in general cultivation—*CESTRUM AURANTIACUM*. This plant, which is allied to *Habrothamnus*, is not only suitable for walls and pillars, but flowers freely in quite a dwarf state—that is, cuttings struck in the spring and grown through the summer in the open air, having their pots plunged in ashes, become useful decorative plants in the autumn. We have recently seen plants in 5-inch pots flowering freely, and their drooping racemes of orange-coloured flowers were much prized. In the Alhambra Court at the Crystal Palace a fine plant of *Aralia papyrifera* is flowering. The leaves of this plant are fully 3 feet in diameter. In the same Court the Dragon-blood Tree and other *Dracenas* are in superior condition, and this part of the Palace is worthy of a visit. The cleanliness and general good health of the plants and trees in the immense structure afford evidence that they are well cultivated and cared for.

— WE have received from Mr. Bennett of Rangemore a sample of GROS COLMAN GRAPES. The berries were closely set, and not one of them measured less than 3½ inches in circumference; they were also tolerably well coloured, but not perfectly black. Although this Grape is not esteemed by Mr. Bass, and is being supplanted at Rangemore with other varieties of better flavour, yet the Grapes sent were juicy and refreshing, and were, we think, superior to any of the same kind which we have previously tasted. This is a noble-looking Grape, and some cultivators find that when it is grown in a tolerably high temperature and is ripened early, that its quality is much better than when the Vine is grown in a cool temperature. Mr. Wildsmith speaks well of Gros Colman, and has recently exhibited it excellently well at South Kensington.

— A "DURHAM AMATEUR" states that he has PRESERVED TEA AND OTHER TENDER ROSES annually by digging them up in November and laying them in by their heels in a part of the garden where he could cover their tops with litter in severe weather. He does not recommend a south border for thus storing them, as in such a position the buds are apt to commence growth too early in the spring. A few dozens of Roses can be laid in a small plot of ground with a little expenditure of labour. Before adopting this plan he annually lost some much-valued Roses, but now he has bushes which he has thus preserved for several years, and such Roses flower freely during the summer and autumn months. He states that the frequent removals have induced the trees to form bushy fibrous roots very different to the ordinary roots of Roses which are left to grow year after year without being removed.

— THE COLORADO POTATO BEETLE.—Information has been received from the German authorities, conveyed to Her Majesty's Minister at Berlin, on the capture of the insect on board ships at Bremen, and also with regard to their introduction into Sweden. The insect not only moves by flying, and by navigating, so to speak, smooth water, but also travels on common vehicles, railway carriages, and platforms, on decks of vessels, &c., especially during the months of August and September. In localities fully invaded, the beetles may be seen creeping on side walks, bridges, and wharves, crawling up buildings, penetrating houses and dwellings, finding their way into boats and vessels, and being found alive after a long sojourn in situations where there would seem to exist no chance for them to find any subsistence. If, however, the absolute repelling of the invader is unfortunately beyond reach, the extent of the disaster is fortunately in a very great measure under control, involving, of course, care and expense. The remedies are—1, Searching for and crushing every Potato beetle wherever found. 2, Frequent visits to the Potato fields, and searching for the eggs deposited on the under side of the leaves of the Potato vine; and 3, Watching for the presence of the larvæ on the buds and on the leaves of the plant, in order to destroy them by means of Paris green, the only substance yet discovered to be effectually operative.—(*Daily Telegraph*.)

— ANCIENT TOUGHENED GLASS.—In a "Book of Curiosities" we read—"There was an artificer in Rome who made vessels of glass of so tenacious a temper that they were as

little liable to be broken as those that are made of gold and silver. When, therefore, he had made a vial of the purer sort and such as he thought a present worthy of Caesar alone he was admitted into the presence of their then Emperor Tiberius. The gift was praised, the skilful hand of the artist applauded, and the donation of the giver accepted. The artist, that he might enhance the wonder of the spectators and promote himself yet further in the favour of the Emperor, desired the vial out of Caesar's hand, and threw it with such force against the floor that the most solid metal would have received some damage or bruise thereby. Caesar was not only amazed, but affrighted with the act: but the artist, taking up the vial from the ground (which was not broken, but only bruised together, as if the substance of the glass had put on the temperature of brass), drew out an instrument from his bosom and beat it out to its former figure. This done, he imagined that he had conquered the world, as believing that he had merited an acquaintance with Caesar and raised the admiration of all the beholders; but it fell out otherwise, for the Emperor inquired if any other person besides himself was privy to the like tempering of glass. When he had told him 'No' he commanded his attendants to strike off his head, saying that should this artifice come once to be known, gold and silver would be of as little value as the dirt in the street. Long after this—viz., in 1610, we read that among other rare presents then sent from Persia to the King of Spain were six mirrors of malleable glass so exquisitely tempered that they could not be broken."

— THE HOT-WATER APPARATUS fixed in the Arctic ship "Discovery," by Mr. Henry Ormson, King's Road, Chelsea, is stated to have proved highly successful.

### ROSES IN SMALL GARDENS.

I CANNOT agree with "E. M., Croydon," in his strictures on Rose-growing. They seem to me to be only applicable to those who have spacious grounds, and therefore can indulge in giving each Rose plenty of space for "its voracious appetite." But he can know little of cottage gardens, or even of small villas, when he condemns the owners for growing Roses in the "midst of a crowd of other flowers." The small plots of ground available for gardens preclude the possibility of his advice being taken, unless, indeed, the plots are to be given up to the cultivation of one or two Roses, and, except for their few weeks of blooming, the owners are content to have their gardens a desert.

I quite agree with "E. M." that if Rose nurserymen would, with their Roses, send printed suggestions as to planting, &c., it would be a benefit to those who could profit by the advice; but permanent labels would only be valuable to a rosarian, not to an ordinary grower of flowers or a cottager.—R. S.

### REPORT OF THE BRISBANE BOTANIC GARDEN.

MR. WALTER HILL, Colonial Botanist and Director of the Garden, gives highly satisfactory details of its progress. We give a few brief extracts:—

The principal plants that have flowered or borne fruit during the past season for the first time are—*Enkianthus quinqueflorus*, *Moringa pterosperma*, *Rhopala magnifica*, *Toxicophlæa spectabilis*, *Phalanopsis Schilleriana*, *Vanda Hookeri*, *Catakidozamia McLeayi* (eleven years old), *Raphia Raffia*, *Areca alba*, *Chamærops excelsa*, &c.

During the past year 114,487 cuttings, 21,884 roots and bulbs, 25,089 plants, and 74 lbs. 10 ozs., together with 1065 packets of seeds have been distributed amongst 806 public and private establishments.

It is worthy of remark, and as a proof of the growing disposition exhibited for the cultivation of useful tropical and subtropical plants, that by far the larger proportion of these are plants of economic and commercial value, many of them introduced to this colony through the means of this establishment.

A number of indigenous Grasses have been tested with satisfactory results. Amongst them are:—

*Cynodon dactylon* (Couch or Indian Doob Grass), which is indigenous to Northern Australia as well as India, and possesses good fattening properties.

*Microstena stipoides* (Oat Grass).—Where Kangaroo Grass grows this Grass is generally found, but does not suffer so much from overstocking as the former. It is a good fattening Grass, and vegetates freely during the winter.

*Anthistria australis*.—This Grass is found in all parts of Australia, and is one of the most useful of the indigenous Grasses. Its nutritive qualities are at the highest when it begins to turn brown in autumn; and at this stage it is one of the best Grasses for sustaining the working powers of horses and cattle. When closely grazed by sheep it soon dies out.

*Panicum italicum*, L.—This Grass, notwithstanding its specific name, is of Indian origin, and is also a native of Northern Australia. It is a good pasture Grass, and possesses fattening properties and thrives well upon poor dry soils. Although an annual, it increases quickly, from being an abundant seed-bearer. The seeds, when pounded, mixed with water and baked, are used as food by the natives.

*Danthonia pectinata*, Lindl., and *Danthonia lappacea*, Lindl., the celebrated Mitchell Grasses, seeds of which were received through the courtesy of W. H. Barton, Esq., Aramac, are worthy of special mention. They are perennial desert Grasses, resisting drought, and are sought with avidity by stock. From their well-known fattening and drought-resisting properties they are so important as to be deserving of culture in their native habitats, and are likely to prove serviceable when introduced in many localities in which at present they are strangers.

### OUR BORDER FLOWERS—MULLEINS.

VERBASCUMS are not frequently met with in cultivation. Whether they are considered too common for dressed borders or are not sufficiently known, or, what is worse, are not cared for, I am not prepared to say, yet many of them are very ornamental. They may be despised and rejected, yet they are in possession of attractions that ought to secure for them more prominent places than they are at present occupying. No great amount of skill is required in their cultivation, for any good sandy loam will afford them a good medium to develop themselves in. They should not be crowded, and efficient drainage should be provided for them.

Our own Black Mullein, *Verbascum nigrum*, with its varieties are fine plants, and do us good service in the shrubby and herbaceous border. From the Caucasus we have *Verbascum cupreum*, a rather tall-growing kind; but its copper-coloured flowers are very attractive. It flowers in early summer, and continues for a length of time. From that memorable mountain—of more than human interest—Mount Sinai, we have *Verbascum æthiopicum*, but it is rarely found in cultivation. *Verbascum fasciculatum* is similarly scarce. There are many other kinds, such as *Verbascum montanum*, *V. creticum*, *V. Thapsoides*, and *V. Lychnitis*, that deserve notice. *Verbascum phoeniceum* is one of the most attractive of the family. This, with its varieties, in a group are very beautiful, their colours being white, purple, and red.

Verbascums are increased by seed sown as soon as ripe, and by division of the roots in spring. When once established they last many years.—VERITAS.

### SOME SPECIES OF PRIMULA.—No. 1.

No more appropriate name could be applied to the genus, for nearly all the species are "the little firsts" of the year to flower. Our earliest authority, "The Greater Herball," published in 1561, says of the Primrose, "It is called Prymerolle or Primula of prime tyme, because it beareth the first floure in pryme tyme," that is in the spring; and Milton, as usual, was a true annalist when he wrote—

"The flowery May, who from her green lap throws  
The yellow Cowslip and the pale Primrose."

In that month they are in their greatest strength, but their advanced guard appears in April.

Lyte, who wrote a little after "The Greater Herball" was published, says, "The pettie Mulleyns are called Cowslippes, Primeroses, and Oxelips. These herbes do floure in April, and sometimes also in March and February." They were two centuries ago special objects of culture; thus Gilbert in his "Florists' Vade-Mecum," published in 1683, says, "Many sorts were raised lately from seeds and given me by that industrious rare florist, my truly worthy friend Peter Egerton, Esq., of Boughton near Chester." Parkinson some years previously described twenty-one kinds. I have no doubt that Primrose is a corruption of the earliest name of the flower, for it has no resemblance to a Rose; but Primrolle is strictly applicable, being a compound of Anglo-Saxon words equivalent to "Spring-unfolding."

We will commence our notes with *PRIMULA LONGIFOLIA*, a native of the Levant, and introduced as long since as 1790.



Fig. 67.—*Primula longifolia*.

Its leaves are spatulate, toothed, smooth on both surfaces, elongating after the plant has flowered, and are rather erect.

The umbel is very erect, and bears many flowers of a pink colour.

This attractive species is of easy cultivation, and is adapted for the decoration of the spring garden, rockwork, and the conservatory. It is hardy, but is injured by excessive wet; a partially shaded place in summer is also desirable. The plants will flourish in ordinary garden soil, and are increased by division after flowering. For cultivation in pots they need to be potted in a mixture of fresh loam, leaf soil, and silver sand. A shaded place in the open air is suitable for the plants during the summer, a cold frame for preserving them during the winter, and the shelf of a greenhouse during the flowering period in the spring. The foliage is liable to the attacks of red spider, but healthy growth and occasional syringings, with a cool pure atmosphere, will preserve the plants from serious injury. The flowers, besides being pretty by their compact form and pleasing colour, emit a delicate and agreeable perfume.

#### MANURING AND PLANTING ROSES.

I HAVE been asked many times, What is the best manure for Roses? I think your correspondent "D., Deal," is right in recommending pig manure; but I like pig manure which comes from the stable first and was then thrown into the pigsty. The pigs cool the horse manure, and when thoroughly decayed it has the combined strength from the pig and also the ammonia from the horse, which renders it capital for the Rose, and far superior to any I know for the Rose either on the Briar or the Manetti both in light and heavy soils.

I like a good heavy dressing put on early in June, which will keep out the drought of summer, and then forked in about the end of October, and another good dressing in November to keep out the frost. I think these seasons are the best for manuring. I also use this manure when planting, trenching the ground 2 feet deep, and mixing with it some chopped turf, which is also valuable.

My opinion is that Rose-growers would do better with their old Roses by taking them up once in five or six years and removing from the roots all the suckers and old, long, or decayed roots, and replanting in soil well trenched and manured. I may also add that this is the best time for that operation. I have treated my Roses in this way and it answers well.—C. H. KITCHING, *Woodstock*.

#### HYDE PARK.

It is probable that this name is a corruption of the Anglo-Saxon designation of part of the manor *Eia*, and which may have derived its title from *Ea*, running water, as the rivulet Tyburn passed through its entire length. The manor of Hyde, Mr. Walford says, was in the possession of the Abbey of Westminster at the time the Domesday Book was compounded, and remained in the hands of the monks until seized upon by King Henry at the time of the Reformation. Of the manor of Hyde we know that its woods afforded to the monks both firewood and shelter for their game and waterfowl; and there is extant a document in which William Boston the Abbot, and the rest of the Convent of Westminster, with their entire assent, consent, and agreement, handed over to His Majesty "the seyte, soyle, circuyte, and precincte of the manor of Hyde, with all the demayne lands, tenements, rentes, meadows, and pastures of the said manor, with all other profytes and commodities to the same appertayning and belonging, which be now in the tenure and occupation of one John Arnold."

"Henry's main object in appropriating this estate," observes Mr. Larwood, "seems to have been to extend his hunting grounds to the north and west of London. As we have already seen, the king had previously purchased that plot of ground which afterwards became St. James's Park. Marylebone Park (now the Regent's Park and surrounding districts) formed already part of the royal domain; and thus the manor of Hyde, connected with these, gave him an uninterrupted hunting ground, which extended from his palace of Westminster to Hampstead Heath. That some such idea existed in the royal mind appears from a proclamation for the preservation of his game, issued in July, 1536, in which it is stated that 'As the King's most royal Majesty is desirous to have the games of hare, partridge, pheasant, and heron preserved in and about the honour of his palace of Westminster, for his own disport and pastime, no person, on the pain of imprisonment of their

bodies, and further punishment at His Majesty's will and pleasure, is to presume to hunt or hawk, from the palace of Westminster to St. Giles-in-the-Fields, and from thence to Islington, to Our Lady of the Oak, to Highgate, to Hornsey Park, and to Hampstead Heath.' It was, probably, also about this period that the manor of Hyde was made into a park—that is, enclosed with a fence or paling, and thus became still better adapted for the rearing and preserving of game. And here it may be fit to observe that its extent at that time and for long after was much greater than it is at present, reaching as far as Park Lane to the east and almost up to the site of Kensington Palace to the west."

Cunningham observes that to the passionate fondness of the early English sovereigns for the chase we owe in all probability the parks of London. What was a passion in our Williams and Edwards became in their successors a fashion also. Even the awkward and timid James deemed it a part of his king-

craft to affect a love of the chase. Hence the formation of St. James's Park by Henry VIII., and the retention of Hyde Park and Marybourn Park by that king and his successors, when other lands appropriated by the Crown at the dissolution of the monasteries were squandered away as lavishly as they were covetously grasped in the first instance. There are circumstances which would lead us to attribute to Henry VIII. a more extensive project than that of merely studding the country in the vicinity of the royal residence with deer parks.

Hyde Park occupies nearly 400 acres. The sheet of water ironically called the Serpentine, being nearly straight, was formed in 1770-3 according to the order of Queen Caroline; but the waterfall at its eastern end was not constructed until 1817. The angle which Apsley House occupies and a large portion of Kensington Gardens have been subtracted from the park.

Hyde Park was a favourite place of resort for those who

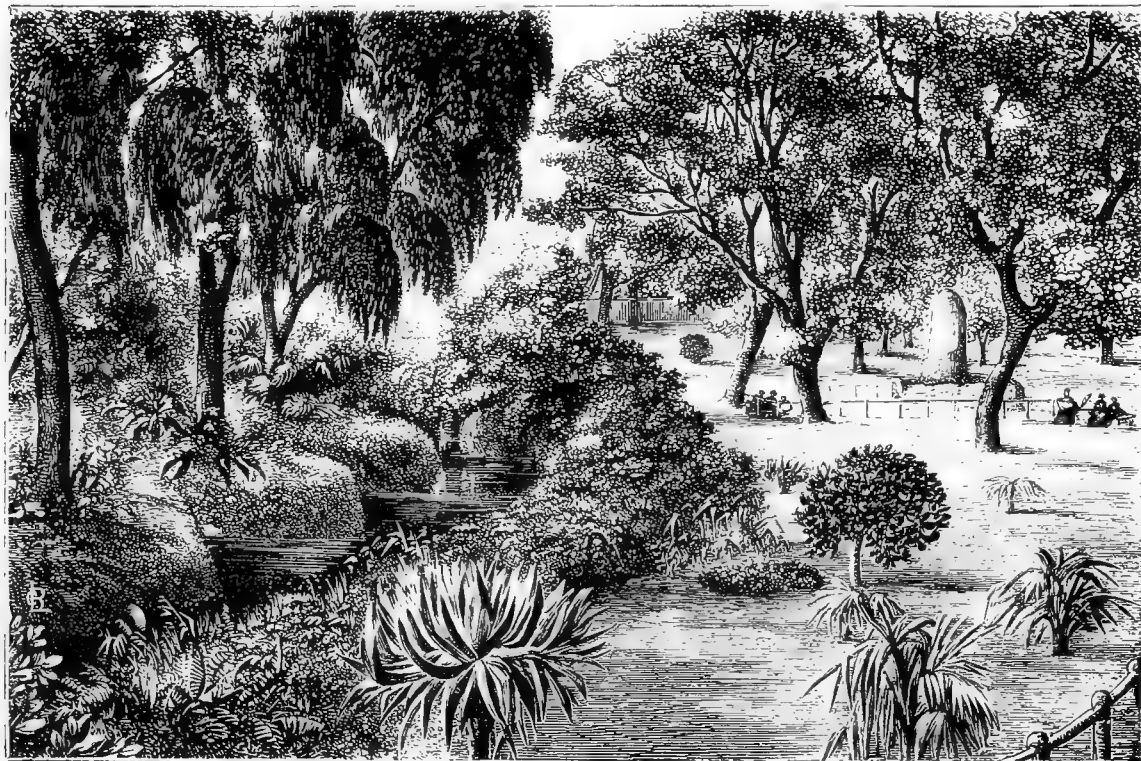


Fig. 68.—HYDE PARK—THE DELL.

brought in the 1st of May with the reverence once paid to it. Pepys breathes a sigh in his 'Diary' on the evening of the 30th April, 1661 (he was then on a pleasure jaunt), to this effect:—"I am sorry I am not in London to be at Hyde Park to-morrow morning, among the great gallants and ladies, which will be very fine." It was very fine, for Evelyn has entered in his 'Diary,' under the date of the identical 1st of May referred to by Pepys:—"I went to Hyde Park to take the air, where was His Majesty and an innumerable appearance of gallants and rich coaches, being now at time of universal festivity and joy." But even during the sway of the Puritans the Londoners assembled here "to do observance to May," as we learn from "Several Proceedings of State Affairs, 27th April to 4th May, 1654."—"Monday, 1st May. This day was more observed by people going a-maying than for divers years past, and indeed much sin committed by wicked meetings with fiddlers, drunkenness, ribaldry, and the like; great resort came to Hyde Park, many hundreds of coaches and gallants in attire, but most shameful powdered-hair men, and painted and spotted women. Some men played with a silver ball, and some took other recreation. But His Highness the Lord Protector went not thither nor any of the Lords of the Commonwealth, but were busy about the great affairs of the Commonwealth."

A resident has observed in a local periodical that a map

of Hyde Park about the year 1736 or 1737 shows the turnpike and gallows at Tyburn, and a double row of Walnut trees, with a wide gravel walk between, running from north to south parallel to the Park Lane. In the centre of this avenue is a circular reservoir belonging to the Chelsea Waterworks, and from which not only Kensington Palace and the suburb were supplied, but also "the new buildings about Oliver's Mount" (now Mount Street) "and the northern parts of Westminster." Mr. Larwood tells us that the machinery used for forcing the supply was at that time so primitive that the water had to be conveyed to the houses on the high ground near Grosvenor Square by means of a mill turned by horses.

This avenue of Walnut trees was standing till about the year 1810, when most of the trees, being much decayed and in danger of being blown down whenever the wind was high, were cut down, their wood being designed to make stocks for the muskets of our infantry.

In the map the "Ring" is marked with a large circle, apparently about 150 yards to the north of the east end of the Serpentine. Round the "Ring" stands a square of large trees, a few of which may, perhaps, still be standing. There is a small brook which runs into the Serpentine near the present boathouse from the neighbourhood of the Uxbridge Road, and two small ponds of water are marked towards the south-east corner—one nearly where the statue of Achilles



now stands, and the other nearer to the rear of Apsley House. The map shows also the two roads running parallel to the Serpentine on the south, marked respectively as "The King's Old Road or Lamp Road," and "The King's New Road," the former corresponding nearly with the Rotten Row of our time, and the latter running, as now, inside the park close to the Knightsbridge Road and Kensington Gore. On the north of the Serpentine there is apparently no regular road, except for about 100 yards from the eastern end, where it bends to the north away from the water towards the "Ring."

The "Ring" was a place of fashionable resort down to the reign of George II., when it was partly destroyed in the formation of the Serpentine river. Remnants of it were still traceable at the beginning of the century on the high ground directly behind the farmhouse. A few very old trees are even now to be found on that spot. Some of these are indeed ancient enough to have formed part of the identical trees round which the wits and beauties drove in their carriages, and, as Pennant says, "in their rotation exchanged, as they passed, smiles and nods, compliments or smart repartees." Plain as it was, it must have been a pleasant spot on a summer's afternoon. Situated on an upland space of ground one may imagine the pleasurable prospect from hence when all around was open country, and nothing intercepted the view from the Surrey hills to the high grounds of Hampstead and Highgate. One can easily imagine how delightful it must have been for the ladies who "came in their carriages from the hot play-house and close confined streets of the city, to be fanned by soft winds which blew over broad acres of ripening corn, flowering Clover, and newly mown hay, or rustled through the Reeds and Willows on the banks of the pools."

Walker, in "The Original," in 1835, speaks of the "Ring" as being still traceable round a clump of trees near to the foot barracks, and enclosing an area of about 90 yards in diameter and 45 yards wide. "Here," he adds, "used to assemble all the fashions of the day, now diffused round the whole park, besides what is taken off by the Regent's Park."

Yet there still is no outdoor spot in London that has such a world-wide reputation as this, and for a stranger to be in London during the season and not to visit it would be to miss a sight where beauty, fashion, wealth, and luxury, and not a few men of rank and distinction from all parts of Europe, congregate. To the lovers of horses, too, the sight is unequalled, for here in the season he will see some of the finest animals that money and knowledge of quality can procure, also every kind of fashionable vehicle which the ingenuity of carriage builders can produce. There is a beautiful shady walk on each side of the Ladies' Mile, and those walks will improve every year, for the trees are still young, but the foliage is very fine and indicates health. Under those lofty trees a few years ago there was nothing but weeds and dust, and everything that made a place look unsightly; but now everything is done that can be done to make it look beautiful. The Albert Gate end of the Serpentine, which was formerly nothing but a dirty ditch, is now a charming little dell and an object of much admiration. The floral department of Hyde Park is under the superintendence of Mr. Gibson, and each summer's display gives evidence of his taste and skill.

## WILL POTATOES RUN OUT?

By Professor W. J. BEAL, Michigan Agricultural College.

AGAIN, as usual we have raised many varieties of Potatoes—this year about 250. Two moderate-sized tubers of each kind were used as seed for six hills. They were planted on sod ground which had been seeded for several years. The ground was in good condition and had yielded two crops a-year of orchard Grass, Clover, and Lucern. The soil was a sandy loam, and ploughed in the autumn, cultivated and top-dressed with fine manure in the spring. In ordinary seasons the crop would have been a good one, but this year it was very light. The weather was very favourable till some time in June, when it suddenly changed from cool and cloudy to hot and plenty of sunlight. Potatoes almost stopped growing on account of the sudden change.

In former years the Potatoes in small quantity here noticed were planted on old garden soil—I mean on soil which had been in cultivation for some years in succession. They have been manured in a variety of ways, not very heavily, but generally with a good dressing of fine manure and ashes. The Potatoes have never been planted on the same piece of ground in two successive seasons, but they have been shifted about on

similar soil, on different parts of about five to eight acres. Two years ago the number of varieties was much increased. Previous to that time, for some six years, there had been fifty to eighty varieties in the garden. For some years the yield has been carefully noted, usually by weighing the tubers of each hill, or each set of hills. Of course we should expect a variation in the yield for different hills in the same year of the same sort, even if we treated them in all respects as near alike as possible.

The chief object of planting so many kinds in this manner is to watch the changes from year to year in yield, health, quality, &c. We all know for family use that we cannot measure the value of a crop of Potatoes by the scales or bushel basket, still the yield is of great importance. The ideal Potato must, at least, be productive of even-sized tubers close together in the hill, with few or no small ones. It must have full eyes and even surface, a light or red colour or spotted, must be of good quality for all seasons of the year; and now that the beetles have become so troublesome, the model Potato should ripen early in the season.

It would require needless space to give here the weight of each sort. This season the greatest yield for six hills was 19 lbs. 7 ozs.; last year 21 lbs. 1 oz. for three hills. On no two years has the same variety headed the list in productiveness. This year it was Long Pond; last year, Early White; the year before it was Climax. In comparing the yield for the past two seasons I find all those yielding well this year yielded well last year, and that those yielding lightest last year hold somewhere near the same rank this year.

In the report for 1868, before I came to the College, the comparative yield is given of fifty-five varieties of Potatoes. With few exceptions the tubers of these have been used on the garden ever since. They have all decreased in yield, notwithstanding the garden is now much more productive of most crops than it was eight years ago. In 1868, Casco was reported as yielding at the rate of 340 bushels to the acre; last year three hills produced about half an ounce, although it was a remarkably good year for the yield of Potatoes in our locality.

This year it ran out entirely. We did not get one tuber, not even a small one. In 1868 Colebrook gave at the rate of 155 bushels to the acre; Davis Seedling, 276 bushels; Prince Albert, 262 bushels; Coppermine, 176 bushels. Last year they yielded respectively for three hills of each variety—Colebrook, 2 lbs. 9 ozs.; Davis Seedling, 5 lbs. 6 ozs.; Prince Albert, 1 lb. 11 ozs.; Coppermine, 4 lbs. 9 ozs. This year Colebrook yields for six hills (twice as many hills as reported last year) not one tuber, large or small; Davis Seedling, not one tuber; Prince Albert, one-fourth of an ounce, a few very small tubers; Coppermine, 1½ oz. Other examples could be added of a similar nature.

The question as to whether varieties wear out has long been discussed. Mr. Knight, the famous English horticulturist, maintained that they did, and gave what he supposed were good illustrations to prove it. Others since his time, as well as his contemporaries, believed otherwise. I have seen Indian Corn which had been kept for ten or more years on the same farm. Although the farm was a good one and the land well managed, the ears of corn grew shorter, the kernels shorter and rounder at the ends. The corn mentioned was the White Dent, in the latitude of Lansing, Michigan. I should be glad to hear from others who have kept the seed continuously on the same farm for many years. It is a common notion that sheep do better when changed occasionally from one farm to another, or from one neighbourhood to another, even where they were under the care of a good master before changing.

It would be interesting to know whether any of these varieties of Potatoes which have been kept here for some years would revive if their seed were sent to distant portions of our country and well treated. To test this point, last spring I sent tubers from our garden to Kansas Agricultural College and another set to Ohio Agricultural College at Columbus. The Professors of agriculture in each of those two institutions agreed to treat them the same as we have treated them, and report the result for comparison. It may be said that the Potatoes in the cases noticed above ran out because they were not fairly treated, that they were not properly fertilised or cultivated, yet I do not think this the only cause. Of the newer sorts of Potatoes, as lately as Early Vermont, Compton's Surprise, Brownell's Beauty, &c., planted on similar ground with similar treatment, we have raised excellent crops nearly every year. In this connection I may mention a fact, though some will doubtless find other explanations than the degenerating of

varieties. In many parts of southern Michigan the Wheat crop is lighter than it used to be. The usual explanation given is that Wheat has been too often raised on the same ground. But in many instances which have been noticed by our most observing farmers, a newly-cleared piece of timbered land for its first crop does not produce nearly so well as in early times, say thirty years ago, when the country contained much land cleared every year.—(*Rural New Yorker*.)

### CARTER'S METROPOLITAN ROOT SHOW.

THE annual displays at the Agricultural Hall have always been worthy of note and inspection by those who are identified with the cultivation of roots, both of the farm and the garden. The display this year was of great magnitude, farm produce necessarily preponderating, and the quality of the roots was decidedly greater than on any past occasion. The rulings of competent judges have had an educational effect, and now size must be combined with cleanliness of growth and solidity to merit approval. Some idea of the extent of the Show may be formed when it is stated that it occupied the floor of a gallery about 250 yards in length and 20 in width; and the collections were not only of high but of level excellence, which must have given the Judges no small amount of trouble in making their awards. For the prizes, including a ten-guinea silver cup for Carter's Hardy Prize-winner Swede, forty collections were spread, Carter's Warden Mangold sixty-eight, Carter's Red Mammoth Mangold fifty-two, Intermediate twenty-four, and similar numbers of exhibits in many other classes. The weights of the Mangolds varied from 40 to 60 lbs., and many Swedes approached 20 lbs. weight. It was not mere size, however, so much as high quality and distinctness of the several varieties which were the prevailing characteristics of the Show. About a hundred dishes of Potatoes were exhibited, and prizes were awarded for Snowflake, Breadfruit, Excelsior, and Prince of Wales. The best collection—eighteen varieties—came from Mr. Lumsden, Bloxholm; the largest Snowflakes from Mr. Penny, Sandringham. Onions were highly superior, indeed finer bulbs were never staged at any show. The White Spanish type predominated; the Pinesfield variety being well in advance of its congeners. The Show throughout was a credit to Messrs. Carter and their numerous customers who competed.

### NOTES ON VILLA AND SUBURBAN GARDENING.

**GROWING MUSHROOMS.**—In this part of the country the latter part of the summer has been rather more favourable than common for the natural growth of Mushrooms. They have been collected by cartloads, and have met with a ready sale in the markets; yet, notwithstanding that, the artificial culture of this esteemed esculent must not be neglected by those desiring a supply throughout the winter. I will enumerate, therefore, a few principal points to be attended to in their culture. Firstly, do not delay any longer in preparing the materials for the beds. These consist of horse droppings, to be collected as fresh as possible, with a very little very short straw left and mixed with them, and put in a heap to sweat, and be sheltered from wet in some outhouse. If the heap should be small and showing no signs of heating, throw two or three mats over it, and this will help to induce fermentation. When such is the case turn the heap inside out and mix the whole well together. It is important to understand that this heap is not to lie till it has exhausted itself by heating, but as soon as the fermentation has partially subsided and the material is in a moderate state as to dryness it may be put into the bed, but if too wet mix a few fresh oak leaves with the dung; but in towns where these cannot be obtained a little of the litter that was shaken from the dung may be chopped up and added by mixing.

In making the bed take care that the material is put in in thin layers all over the bed, so that the heating may be regular, for if put by barrowfuls without an attempt to spread it out evenly, the heating becomes violent at one place and the bed is cool in another. Tread or press every layer down as firmly as possible, for if the dung is in good order it will have a kind of spring in it that will prevent it being made too firm, but if too wet it cakes and is not in good condition. I am an advocate for having the beds rather deeper than is usual in Mushroom houses—about 18 inches at the front and quite 2 feet at the back where the bed usually rests against a cold wall, otherwise I see no reason for having a bed elevated at the back. After being trodden down sticks should be inserted in it at two or more places to tell when the heat rises. If it is long in coming up cover the bed with a layer of straw, which will help it much. When the heat does rise and increases in intensity day by day no spawning must be done, but when the heat commences declining and is reduced to a little more than new-milk warmth about 3 or 4 inches under the surface, spawning may be done with safety by making holes to that depth and inserting small pieces of the size of a duck's egg, and pressing them in

tightly, filling the holes up, and making all level on the surface and closing the house. The bed should now be watched carefully, and when the heat is going down too rapidly cover again with straw, and this will prevent the temperature falling too low. In about a fortnight, if all goes on well, the spawn will begin to run—that is, will throw out white hair-like threads into the dung, and by trying two or three different parts of the bed, and finding it generally so, the surface may be soiled over.

The soil should be sifted fine and not be too close in texture, or the surface of it when beaten down becomes caked, and the Mushrooms cannot come through, therefore let it be just sufficient to cling together. Cover the bed with 2 inches of soil, so that when beaten down there is a good inch in thickness. The surface should then be covered over with straw. The heat of the house or shed should be kept up to 55° or 60° at first, either by hot water or by a heap of heating dung. When the small Mushrooms appear the bed may be watered if it appears dry, but not without, and the crop will soon be ready for gathering. After the first crop is gathered the bed may be watered if needed and covered over again for the next crop, and so on till the bed is exhausted.

It matters not where Mushrooms are grown, the same principles of culture must be pursued. Some grow them in boxes, tubs, or even large pots, and if the conditions of making up the material and affording the necessary warmth for starting the spawn—a point never to be neglected—and the atmosphere is kept even in temperature, no one need be afraid of attempting the culture of Mushrooms, nor doubt of being successful.—THOMAS RECORD.

### DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

#### HARDY FRUIT GARDEN.

APPLES and Pears in the fruit room are not keeping well this year. Much of the fruit has been injured by the Apple-boring maggot. Some seasons we have been almost exempt from this pest, and have fancied that it would not trouble us much more, but it has again attacked the fruit to a large extent. We still fancy the best way to keep the maggot in check is to gather all the fruit attacked by it, and destroy it, thus preventing the further increase of the pest. We frequently look over the fruit in the fruit room and remove such as show symptoms of decay, to prevent the injury from extending further. This is work that ought by no means to be neglected.

In a previous number instructions were given to have ground prepared for the planting of fruit trees. No time ought to be lost now in placing the trees in their stations. Nearly all the principal nurserymen have a great demand for all sorts of trained trees, and the best specimens are bought up early in the season. It is not an uncommon occurrence for amateurs, and even gardeners of experience, to place rich compost round the roots of the trees, and we have even seen manure used without the addition of any soil to it. Now, as a general rule, garden soil is rich in manurial properties, and is not in the best condition to be applied to the roots of the trees, and when turf loam can be obtained there is nothing better for planting in; a larger proportion of healthy fibrous roots are made in this than in anything else, and should it be necessary to remove the trees next season it can be done without any injury to them. See that the holes for the roots are large enough to allow them to be spread out to their fullest extent, place 2 or 3 inches of the loam in the bottom of the hole, and then place the roots of the tree in, filling up with loam, carefully working it in amongst the roots, and when the operation is finished the tree ought not to be deeper in the ground than it was before its removal. Pears on the Quince stock should be planted to the union of the stock with the scion. All newly-planted trees should have a stout stick placed to them to prevent their swaying with the wind. Wall trees require to be planted in a similar manner. The bole of the tree should be 2 or 3 inches from the wall, and the tree ought not to be fastened to the wall until the ground settles down, which it will do sufficiently in the course of two months. All small fruits, such as Raspberry, Currant, and Gooseberry bushes, should be planted at once. All of them, and Raspberries especially, require rich soil. The ground ought to be trenched and well manured. We merely plant in the ordinary soil, and for all newly-planted trees and bushes some decayed manure is placed on the surface of the ground over the roots. Nothing is better for this purpose than spent frame dung or the clearing-out of old Mushroom beds.

We have commenced pruning Gooseberry and Currant bushes. We thin the wood out well, spurring the young wood close back to the old. What young wood is allowed to remain on Gooseberries is shortened back but little. Red and White Currants have it cut back more closely. Black Currant bushes require no pruning, except to thin-out the branches when they become crowded. After pruning the bushes clear the prunings off, as they are unsightly when left on the ground; then give a good dressing of manure, and fork the ground over neatly, burying

the manure under the surface. Should the Gooseberry bushes have been infested with the caterpillar the previous season remove the surface soil from under them to the depth of 4 inches, as this portion contains the larvæ of the caterpillars, which may be destroyed by being turned 9 inches or a foot below the surface.

Box-edging that requires relaying ought to be done now; we have found the edgings do better when planted at this season than at any other. Edgings formed of tiles or stonework if out of order should also be attended to.

#### PINE HOUSES.

We have had some good fruit from plants put out in a bed in rich turfy loam. They had a depth of soil of about 15 inches, and were 18 inches apart, the sorts being Smooth-leaved Cayenne and Charlotte Rothschild. Our experience with the above two sorts has been a very extended one, and whether as pot plants or for planting out in the beds the Cayennes are the best. The foreign growers seem to take to this sort more than any other, and they seem to be very successful with it. Specimens have been sent into Covent Garden very recently weighing 12 lbs. each. It is singular that the fruit should not be of good quality, at least in comparison with the same sort grown in England, as the crown and appearance of the fruit cannot be distinguished from home-grown fruit. We have given the temperatures of the different divisions of the houses in previous numbers, and these temperatures must still be maintained. Plants in the fruiting house, on which there are fruit in different stages of development, must have water supplied to them when it is required, but that is not very often at this season. Plants at rest intended to be started early next year ought not to have any water at the roots, and the atmosphere should be comparatively dry. Some Pine-growers keep their plants in growth all through the winter months, but it is better to let them rest at that season. They may be started into growth with the lengthening days of the new year.

**Figs in Pots.**—No fruit trees do better in pots than the Fig. The restriction to which the roots are subjected in the confined space of a pot seems just what the tree requires to make it produce short-jointed fruitful wood. When this object has been gained it is easy to swell the fruit up to a large size and have it of the best quality by rich surface dressings, and a little manure water occasionally will be of advantage. When the dressing has been applied to the surface of the pots it is interesting to watch the rapid manner in which the thick fleshy roots push into it, and how quickly the effect is seen in the more healthy dark green hue which the leaves assume. Those who intend to force a few Figs in pots early should now make the necessary arrangements. A gentle bottom heat promotes root-action, and is an advantage to the trees early in the year. Beds of oak or beech leaves produce a mild lasting heat, and throw off sufficient moisture to produce an atmosphere well adapted to the health of the trees. The pots may be plunged two-thirds of their depth in such a bed as this. No syringing will be required except a gentle dewing overhead in warm days. The trees may be started with a night temperature of 45°, gradually increasing to 55°, and this should not be exceeded until the leaves have grown nearly their full size. The pots must not be under-watered, but on the other hand the Fig detests stagnant soil.

#### GREENHOUSE AND CONSERVATORY.

With a large stock of the best sorts of Chrysanthemums these structures are as gay now as it is possible to have them at any season of the year. What a boon it is to have such fine flowers at this season, either for cut flowers or other decorative purposes. The flowers during damp weather suffer much from mould, the petals damp, and decay rapidly spreads. The leaves also suffer much from mildew, which, however, is easily destroyed if taken in time, by dusting with dry sulphur. When the leaves of any plant are much infested with mildew dry sulphur does not always destroy it on the first or even second application. A good plan in such a case is to lay the plant on its side and syringe it regularly over the leaves with soapy water in which has been mixed a handful of flowers of sulphur to the gallon. The object of laying the plant on its side is to prevent the water from draining to the roots, as it injures them.

All plants must be kept perfectly free from insect pests. Red spider attacks hardwooded specimens in a most insidious manner, and sometimes much damage is done to the plants before the pest is discovered. Camellias do not often fall a prey to this parasite, but it does sometimes attack the under sides of the leaves, causing them to become rusty. When the stock of plants is not large and time permits, the best plan is to wash the leaves and stems, including all the branches, with soapy water. This will cleanse them from scale as well as from all other insects and accumulations of dirt.

Some of the earliest Cinerarias are showing flower, and those that will be at their best in March and April are growing very strongly in a cool pit. The Cineraria does not endure much sun, and the less artificial heat that is applied to the plants the better. In fine weather the lights and front ventilators are open to their fullest extent to prevent damp from injuring the

leaves. The side growths we tie down either by placing short sticks in the pots or a wire round the rim to which the shoots are tied, not too much at once, but gradually until the outer flower stems are brought down to very nearly a horizontal position; the plants when in flower will form half a ball.

Stage and fancy Pelargoniums intended to form handsome specimens require a little training at present. The weather having been so warm the plants are making considerable growth, and those not bushy enough have been stopped. Pelargoniums and Cinerarias are very much subject to green fly, the latter also suffers from the attacks of thrips. They must be destroyed by fumigation, and this must be continued until not even a solitary specimen is left alive. Calceolarias require very similar treatment to Cinerarias, and suffer equally from the attacks of green fly. Decay and mildew spreads rapidly at this season, and all of it should be removed as soon as it is perceived.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Ewing & Co., Royal Norfolk Nurseries, Eaton, Norwich.—*Catalogue of Fruit, Forest, and Ornamental Trees, Coniferae, Evergreens, &c.*

Richard Dean, Ranelagh Road, Ealing, London, W., and Seed Grounds, Bedford, Hounslow, W.—*Catalogue of New and Choice Primroses, Polyanthus, Daisies, Hepaticas, Bedding Pansies and Violas, Hardy Herbaceous and other Plants, also of Choice Potatoes.*

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

LEEDS. November 24th and 25th. Mr. George Hemming, Hon. Sec.  
ISLE OF THANET. August 30th, 1877. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

**GATHERING LEAVES (H.).**—When leaves are very numerous we know of no better plan than raking them together with wooden rakes and putting them into carts with large, long-curved pronged forks. In clearing lawns we first use rakes, then finish with birch brooms, placing the leaves in large wheelbarrows with the assistance of two pieces of board—leaf boards.

**HEATING BY GAS (A Five-years Subscriber).**—Burning gas, unless the fumes from it are entirely conveyed into the air outside, is injurious to Vines and plants.

**"WILD FLOWERS" (W. D. L.).**—The publication will be continued until all our native flowers are portrayed, otherwise the work would be imperfect.

**THE MANETTI ROSE (R. W. S.).**—Mr. W. Paul says, "The Manetti Rose was raised from seed by Signor Manetti of the Botanic Garden, Monza. It was introduced by Mr. Rivers about the year 1837, who received it from Signor Crivelli of Como. I never heard from what species or variety it was raised, and I have never been able to refer it to any species that I have been acquainted with, and have always set it down as a garden hybrid or cross-bred."

**HOLLIES (Iris).**—We cannot name varieties that are multitudinous and nearly alike.

**ACACIA RICEANA (A Constant Reader).**—It is an evergreen.

**EXHIBITED FRUIT WRONGLY NAMED (Juvenile).**—Judges in disqualifying fruit at an exhibition, owing to the said fruit being wrongly named, need not name it properly.

**EXHIBITING CARNATIONS AND PICOTEES.**—No more need be published.

**NOTICE TO LEAVE (Peter Parley).**—"A head gardener was engaged several years since by word of mouth, at so much salary a year, paid quarterly, no mention being made as to notice to quit. What notice should be given on either side?" It has been decided in a similar case that a month's notice must be given.

**THORN DECAYING (Surrey).**—The cause is difficult to determine. We have seen similar instances where the trees were growing in hot gravelly soil. The excessive heat and drought of the past summer caused the branches of many trees to shrivel prematurely.

**BUCKLAND SWEETWATER GRAPE (Reader).**—When well managed this is one of the best early White Grapes; but the fruit is watery and flavourless unless well exposed to the sun. It is well adapted for exhibition early in the year, and at that time, and when in good condition, brings as good a price in Covent Garden as Black Hamburgh. Inferior fruit that has not been exposed to the sun is of but little value.

**MICE EATING CROCUS BULBS (G. G.).**—The best plan is to trap the mice. Lay a flower pot down on its side, and place the trap in it to keep it dry.

**PRUNING VINES (Idem).**—Vines should be pruned as soon as the leaves

have fallen and the Grapes are gathered. Bouvardias may be pruned to prevent the plants from becoming leggy.

**VINES IN GREENHOUSE (J. W.).**—If you intend to grow plants underneath the Vines the rods must be more than 2 feet apart. We advise you to train up canes 4 feet apart from the horizontal main stem, and spur them back annually. You may renew the rods at regular intervals, say one each year. The two rods alluded to in your letter we advise you to cut back, leaving about 5 feet of the wood.

**SCALE ON APPLE AND PEAR TREES (J. R. Liburn).**—We have destroyed this pest by painting the branches in winter with boiled oil, but a number of the blossom buds were destroyed by it. We have not tried paraffin to destroy scale, but no doubt it would do so, as it is sudden death to American blight. Until this year we had not tried it further than just to touch the affected part of the tree with a brush dipped in the paraffin. This season one of the Apple trees was by accident coated over entirely with paraffin, and we will state the result next season. We have seen the small Pear scale destroyed by syringing the trees with water heated to 145°.

**NAMES OF FRUITS (L. Garnett).**—1, Vicar of Winkfield; 2, Hollandbury; 3, Pearson's Plate; 4, Not known. (Mr. Pye Smith).—The two large Pears are Vicar of Winkfield, and the round one Millot de Nancy.

**NAMES OF PLANTS (Amateur).**—Henslow's "Botanical Dictionary" will suit you.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### CAN A POULTRY FARM PAY?

I do not feel competent to deny the conclusions at which the writer arrives, while I must take exception to his figures, and shall be glad if I can call forth the opinions and statistics of some really practical men on the subject, for as far as my own experience goes I can only think "G. R. H." is an enthusiast, and we know they are always able to prove their own conclusions, while ordinary mortals not unfrequently come to grief in trying to attain similar results.

I am very fond of reliable statistics, but in reading or studying them always bear in mind some advice given me years ago—"Friend, thy figures will never tell thee lies if thou puttest them down correctly," and the object of my writing this is to ask from practical men if "G. R. H." has fulfilled the latter condition.

I commenced keeping poultry some ten or twelve years since, and for the first twelve months kept an exact record of every egg obtained. I had six hens and seven pullets, which during the year produced 1114 eggs, or say roughly, ninety each. I thought they ought to have done much better, and so gave up recording what I could only regard as their faults or failings; and although I have kept poultry ever since, have had no reason to doubt this average is very far off the mark, and would therefore ask—"Can 'G. R. H.' persuade his hens to lay 150 eggs each on an average? Can he make each of his 4000 eggs produce a chicken? Can he make fifty hens hatch and rear 4000 chickens? Can he rear 4000 chickens until fit for market without one casualty? Can he obtain 1*d.* each for his eggs on an average? Can he send his fowls and eggs to market for nothing? As it appears to me that if a man and woman are to attend to such a farm they would not have much time for such matter-of-fact duties as this.

I could lengthen my string of questions by such as whether "G. R. H." can obtain his stock and cultivate his land for nothing, but think I have suggested enough to place the balance on opposite side of account; and though fully prepared to admit it may be, and frequently is, kept on the right side, I cannot regard your correspondent's estimate as at all reliable, and shall read with great interest any remarks which men of experience may furnish, and will, in conclusion, only express a hope that "G. R. H." will accept my criticism in the spirit it is offered, which is simply a desire to arrive at hard facts.—EDITH WESTON.

### CRYSTAL PALACE SHOW.

The great "National" is not too ambitious a term to describe this superb Show—this Show of shows, for the best of English fanciers are present. Scotch fanciers, in spite of cold (aye, very cold travelling) weather this year, come south to it; and Irish fanciers face the rough channel and meet their English brethren in the Palace. 'Tis getting an old Show now. I don't care to remember how many years we have met together to look at the "doos." I see alterations in fanciers' faces and figures. There's Mr. So-and-so, how grey he has grown! Then, dear me! what a full waistcoat the once Adonis-like Mr. — has! And there's another coming to "the lean and slippered pantaloon." However, whoever is altered there's the father of the fancy, Mr. Esquilant, not a bit changed, as lively as ever and as young as ever. I wish I had his recipe for retaining young looks. Then there is the Show, same place, same pens. While other shows once annual have departed, some promised and not fulfilled their promises, the Palace Show like Christmas comes surely once a-year. It may take for its motto

"Shows may come, and shows may go,  
But I go on for ever."

Some names I miss from the catalogue, names of fanciers of

high repute and possessing many birds. I sincerely, and with the best feeling towards the fancy and towards all fanciers, venture to hope their names will be in the catalogue next year. There is one observable difference in the Show in general this year—no Rabbits are there. Well, perhaps it is best to keep to feather, and not have fur and feather together. But here are the Pouters standing up and looking me in the face and claiming my attention. What a triumph it was to make a down-looking horizontal-placed little bird stand up straight like a man; a bird prone turned into a bird tall, and looking not prone but upwards. Before speaking of the Pouter classes I must put on record what was not, I believe, in the schedule, and I do not see it mentioned in the catalogue—viz., that a challenge cup value fifteen guineas was presented by Captain Norman Hill for the best standard Pied Pouter cock to be competed for this year at the Crystal Palace, at Belfast, and at Edinburgh Shows. This prize to be for the best standard Pied cock exhibited, and to be competed for until the same bird receives the highest award on three different (not necessarily consecutive) occasions. This prize would establish the fact of a certain bird being the best Pouter in the United Kingdom of his day—a bird, I need not say, that would be looked at with the highest possible interest. Mr. McCulloch's Blue Pied cock, No. 2606, was the winner (one turn) of this cup this year in England.

**POUTERS, Blue Pied Cocks.**—The above-named bird first, a very grand bird; the defects being in his fine colour, a few ticks, and his bars not being wholly clear. Second, Mr. Fulton's fine bird, but the legs a little too forward, hence the body thrown a little out of balance. Third, Rev. W. J. Burdett's; a very superior bird with good bars, but his legs standing wide. This class had thirteen entries. **Black Pied.**—First Fulton (2612), a fine large bird with good crop, but droops his wings a little. Second Pratt (2613), a pleasing slender bird, but his crop smaller. Third, Messrs. Ridley & Dye, deserving its place; and a very highly commended, same owners, equally deserving its notice. **Red or Yellow Cocks.**—First a good limbed and cropped bird of Mr. Fulton's. Second, McCulloch, a good-coloured Yellow, and well marked but short flights. Third, another good Yellow, Ridley and Dye. There were three good Yellows near each other. 2624 (highly commended), the third and the second prizes. A very highly commended (Gill), a large-limbed and good-coloured bird. **White Cocks.**—First, no question about his place, Mr. Stiles's, and his bird in every way "stilis," slender, fine-cropped, excellent. Second, Fulton, a long but rather heavy bird. Third, Ridley & Dye, good, but smaller size. **Any colour Cocks bred in 1876.**—First-and-cup, Ridley & Dye, a Blue and very promising; may he fulfil his promises; the bars extremely good. Second a Blue, McCulloch. Third a Yellow, Blacklock, somewhat wanting in limb.

**POUTER HENS.**—I always am pleased when I get to them, they show so well. Like all ladies they like attention, and, like most, readily respond to it: all this very feminine. **Blue Pied Hens.**—First, Fulton, a grand hen, but a little bishopped. Second another of same owner, but somewhat hog-backed, at least so she seemed. Third, Ridley & Dye, a very superior bird. This a good class. **Black Pied Hens.**—First-and-cup, Pratt, the best hen in the Show. Second, same owner, a rather heavy cock-like bird. Third, Ridley & Dye. **Yellow and Red Hens.**—The Yellows are evidently looking up and appear in stronger numbers. First a Red, good colour and marking (Fulton). Second a Yellow (Pratt), pale, but a good hen. Third another Yellow (Ridley & Dye). **White Hens.**—Mrs. Ladd's superb hen first; this bird any fancier may well be proud of. Second Fulton. Third Ridley & Dye. Next we come to the young hens of any colour. First, McCulloch, a Blue hen; a very long bird, but wide in the legs. Second, Fulton, a better-limbed Blue. Third, Fulton, a Red of a very good dark colour. Very highly commended, a very good Blue, and deserving a prize; pity she has not better bars.

Such were the Pouters: 140 pens in all. The classes well filled, and the whole admirably judged by Mr. M. Stuart.

**The Pigmy Pouter Cocks**, fourteen in number, formed a good class. First-and-cup, Fulton, cream with white bars; the best by far. Second a White, and a very good bird. Third, Mr. C. B. Child, deserving its place. Mr. Tegetmeier and Mr. Holloway also showed some very good birds in this class, which as a class must be pronounced excellent. Pigmy hens quite matched the cocks. First a White of Mr. Holloway's; second a better-limbed bird than first; third Mr. Child.

**CARRIERS.**—**Black Cocks.**—First-and-cup, Mr. Maynard; wattle very large, fine frame, but a little thick in throat. Second, Fulton, a very stylish bird, with better neck than first. Third Mr. Hedley. Class a good one. **Black Hens.**—First-and-cup Mr. Maynard; second, Beckwith; third, Heritage. This class quite equal as a whole to the cocks. **Dun Cocks.**—First, Mr. Hedley, a bird possessing colour, size, and style. Next to it and coming second, Ridley & Dye's, a bird with a marvellously beautiful walnut wattle; the best in the Show as to this point but bad in colour. These two birds were well judged, but the placing them must have cost some thought. **Dun Hens.**—First



Maynard, good of its age; second, Nicholls, a bird of style; third Hedley. A great many highly commended in this class. *Any other Colour*.—Why not call this a class for Blues? for all were Blues save one, and Blue Carriers deserve that they should be alone and recognised. First, Massey, a thorough good Blue; second, Fulton, Blue again; third, Beckwith, Blue too. The Blues were fine in frame, but colour somewhat dingy or smoky, and a few beaks too Dragon-like—not straight enough. The one White was 2815 (Crisp), and very pretty. The Blue hens inferior.

Next came the young Carriers of this year, and it may at once be said that these were not an advance on last year, though some few were remarkable birds. Among these few I would notice the first-and-cup Black cock (Griffiths), a grand style of bird and by far the best of its age in the Show; good limb, good length of feather, and if he goes on all right will be a superb bird. Then I may note the first-and-cup Dun hen (Fulton), a bird with a beautifully straight beak; also first-and-cup Blue cock, fine length and fine head, but beak a little too down. *Any Colour, Cock or Hen*.—Mr. Ord's Pied bird, an old friend, a good bird to breed Whites from; also a Pied pair, very observable and deserving, and I should like to see more Pieds.

Following the Carriers came their cousins the DRAGONS, some of them scarcely cousins "once removed." The entry was a large one—185 pens in all. No one can complain of the fancy becoming tired of the old varieties. Mr. R. Woods was as usual very successful; but the second Blue cock (Mr. Tegetmeier) was a bird of most exquisite colour. The *Silver* cocks with black bars were not numerous, but extremely good, the bar becoming blacker and clearer. The *Red and Yellow* cocks.—First-and-cup Yellow; third a very good-coloured Red, same owner (Woods). The Blue hens were dainty and choice; the *Brown-barred Silver* hens, that good old sort, were up to the mark, and from his perseverance and success might be called "Bishop's own." The *Yellow* hens. First prize a beautiful-coloured bird; third a very rich colour. Next came the *Grizzles*, a very ancient variety recently revived. Once at the Crystal Palace Show only one appeared, now a class. With these might be classed the *Chequers*, instead of putting them with the Whites, which are best seen alone. The result was two *Chequers*, an altogether inferior colour taking two out of the three prizes among the hens of 1876. The young birds were very good well-grown Dragons in all their classes.

ALMOND TUMBLERS, Cocks, any age.—First-and-cup 3152 (Hallam), beautifully spangled on shoulders and breast, and having good carriage; second same owner, rather dark hackle. A good class. *Almond* hens.—First 3168 (Fulton), good rich colour, a little wanting in style; second 3171 (Yardley), one fight too light, barring this better than first. Next I came upon a remarkably good class, the *Almonds* of 1876.—First-and-cup 3181 (Hallam), an excellent ground colour. The *Mottled Shortfaces* were seven in number. Would that these exquisite little birds were ten times as numerous. First, second, and third to one breeder, Mr. Henning, greatly to his credit. Tumblers, *Bald or Beard*, fourteen birds; more than usual. First 3201 (Woodhouse), a good Blue Bald; near it 3200, a good Red, very good in colour (Murphy), but not noticed; third (Fulton) a Blue Bald. This hard-to-breed class very praiseworthy. In the *Any other variety Shortfaces* the *Agates* proved very numerous, Mr. Beckwith's first-and-cup cock highly to be praised. The first hen a Kite, but as a rule the *Agates* won; the third hen (Hallam) a very good-marked bird.

BARBS, cocks.—First Mr. Hedley, a marvellous skull and short face. There was a wondrously good Yellow hen first-and-cup (Byrce). The young Barbs may be called double x. Some of their eyes were beautifully clear, as Nos. 3662 (Hedley), and 3291 (Firth). 3290 (Hedley) a capital Red.

Following the Barbs came the Jacobins, numbering 136 pens, the largest and grandest class ever shown. The Yellows particularly improved in colour, the rich tint almost everywhere, and the former light colour scarcely to be seen. *Red*, cocks.—First-and-cup Roysds, the deepest red, and very fine Jacobin points; second, flights lower down than I like to see. This class a good one; very highly commended, highly commended, and commended abounding. The same may be said of the *Red* hens. *Yellow*, cocks.—First, second, and third, Hardy, Fulton, Swallow, happened to stand next each other. How often shall we see three such birds in adjoining pens? *Yellow*, hens.—First a fine type of bird in eye and down face specially, not the Tumbler beak, as too often, but down beak, which gives the finish to the whole, hood, chain, &c. *White*.—Here was an advance, fifteen birds where three used to be. Some, I fancy, are crossed with *oreign Owls*; but none more exquisite than a good White Jack with pearl eye. First, second, and third very good. *Any other colour*.—Chiefly Blacks, some a little coarse. Two attempts at Blue, one an utter failure, being three-quarters of a German Toy; the other very fair but large. Please, D. Hicks, go on with this colour.

FANTAILS not so numerous as of old. Cocks.—These birds ought to be put in the judging pen before a decision is arrived

at; second better than first to my mind, the first being over-heavy and no motion. The first hen thoroughly good. *Any other colour* brought some interesting birds, perhaps the largest number of whole-coloured birds ever seen. First a Blue, with beautiful head and neck; third a Saddle-back, a capital colour.

NUNS.—Alas! alas! so few, so poor. Surely some fancier will earnestly work-up this fine old Toy. Only seven entries and only two good birds.

No alas! to be added about the TRUMPETERS, which came next. Eleven birds, and all good, some first-rate, as Mr. Lederer's and Mr. Hutchinson's.

ENGLISH OWLS fifty-eight, FOREIGN only ten, and yet there were fanciers who a few years ago wanted to extinguish the English Owl altogether. One thing must be said in fairness, that in quality they were both good.

The TURBITS were excellent and numerous, and

MAGPIES seem to continue to be attractive to many, and why not? Contrast of colour is always pleasing to the eye, particularly if the line of division, as in these birds, is a sharp one. Black, Red, and Yellow won in their order.

I think if judges had been more fair to Red and Yellow Nuns, not always giving to the Blacks, they, too, would have appeared in the show pens, for there are good birds in lofts in England.

The ARCHANGELS are falling off, and owing to the partiality of judges only one colour is shown; the light orange, a very telling colour, now not being seen. This also a pity.

RUNTS have revived and increased from three to twenty-three pens. Well done, good quiet old giants! I am glad you will not be put down by the spirit dwarfs. Ten out of eleven cocks noticed. There's for you!

The FLYING TUMBLER class brought some very good birds before the eye of the public, a fine Black Bald of Mr. Wood's being first; then there were Yellow Mottles, Black Mottles, and Red Mottles. Among the last a fine highly commended (3693) appeared, indeed the whole class (fifteen in number) was worthy. There ought to be twice as many; but mind and do not let them approach in beak too near the Shortface.

ANTWERPS.—The useful—i.e., the Homing birds, were very numerous, the fancy birds fewer.

With the ANY OTHER VARIETY class I must own to a feeling of disappointment—only sixteen entries. First Red Priests of good colour (Mr. Bryce's); second Frillbacks, third Suabians. A poor class, poorly filled.

The SELLING CLASSES.—Useful but not ornamental, but meet a want—namely, the want of those who wish for birds of small price but not necessarily cheap. This class reminds me of the home for lost dogs; you give but little for a pet, and it may answer or—otherwise. No warrant given.

BEST COLLECTION OF FOUR PAIRS OF PIGEONS.—These classes have increased greatly, and in former years were highly ornamental and well seen, being placed under the dome, and their handsome large cages crossing the ends of the other rows seemed to complete the Show, binding all in together. The cages so large and ornamental, and green-baize-floored, were highly attractive to strangers, the birds looking so well in them. Now this year all has changed much for the worst. Room being wanted for the visitors to examine the Chrysanthemums, these cages were actually put above the poultry pens and their whole beauty lost, and the birds too high up to be seen. I venture to think that at least one row might have been in the old place and space enough have remained, and I trust that next year this or some better arrangement will be made. In the first cage were shown not less than two varieties, excluding Pouters, Carriers, and Tumblers. First-and-cup (Fulton), Yellow Jacks, Owls, Turbits, and Barbs. In the third-prize pen were some good Scandaroons. The collections of Carriers, Pouters, and Tumblers were scarcely up to the mark, but Mr. Maynard's were grand. First-and-cup, 3893. The four birds of one, or any varieties, to be shown in a pen, brought nearly thirty entries. Black Magpies first. The four-pair pens are much the most interesting, and when each pen contains a pair of four different varieties the interest is much increased.

Such was our great national Show. Next year I hope that no distinguished fanciers will keep their birds at home. All the best should be at the Palace, and by-gones had best be by-gones. The judging gave satisfaction to most, and the Pouter judging to all (unsuccessful exhibitors of course not reckoned). I would in conclusion make a few remarks—thus on Tuesday the cards were not up till a very late hour, on some cages not at all. This was not the fault of the Judges, but of the clerks whose business it was to write out the awards. This should not be. Visitors who came for only one day had to leave without knowing whether their birds had won. The cards were not up for hours after the judging was over. One great improvement was the publishing a catalogue with the awards on the margin of each page, instead of some wonderfully puzzling separate issue as in former years. Though the new plan necessitated in some cases buying a second catalogue, yet better spend another shilling than have a loose unnumbered list to which reference had to be made. I hope the new plan will be adhered to.

The absence of mismarked Pouters was a good riddance; they are birds for the loft like stock birds. But I should much like to have seen a class for standard Pied Meallies, for it is a beautiful colour, with proper bars, &c., not washed-out Meallies, and it is a very old colour. Then Meallies are cheap, so the poor fancier could have a chance, and in shape the birds are often elegant.

One met at the Show with pleasure old acquaintances and made new friends; saw *in propria persona* those known before only by letter. There were enthusiastic new fanciers come for a first sight of this great Show, and old fanciers whom its birds made again enthusiastic. Grave men looking delighted, fair ladies whose cheeks glowed with pleasure. "There were," says old Grumbleton, "those horrid cocks everlastingly crowing, I suppose." I answer in the words of a lady, that under this high crystal roof "the crowing sounded like a band of music." There's for you Mr. Grumbleton, please to grumble no more. I have spoken of the good judging—all things are not good at the Palace. Having a spare half hour I tried every weighing machine I could find, sat down, smart boy handed the card with correct (!) weight on. Every machine gave a different weight, and not one of them was correct. This is a little thing, but a lie even in little matters deserves exposure. I dare say the weights had never been touched since the Palace was built; hence they are all light with wear. It's a grand old place though, in spite of weighing machines, an historical place. 'Tis the best sight we have to show to strangers, and ought to be adopted by the nation, and a part rebuilt and everything kept in repair. It awakens in one's mind different feelings to any other place. Paxton, Chatsworth, Hyde Park in 1851—grand opening—high hopes in regard to art culture, not, alas! realised, for the courts are by most unnoticed. But there are the gardens always grand either with shrubs or flowers, or both, but never to my mind does the inside of the old Palace look better than at our annual and national (make it more entirely national, good fanciers) Pigeon Show. The elegant birds of various colours form a soft moving carpet in the transept. Even the Pigeon-ignorant like to walk through the rows and admire, and may they increasingly admire until they learn the pleasure of being Pigeon fanciers.—WILTSHIRE RECTOR.

#### POULTRY.

**DORKINGS.**—We have perhaps seen one or two finer shows, but on the whole there was a grand collection of birds, and the standard was high throughout all the class. First in Dark cocks was a fine bird in size and shape, capital in colour and general condition, but he had too much white in his tail, and was shaky on his legs—a serious fault. Second was out of condition, and carried his tail too far back, but had beautifully white feet. Third a big bird in fair condition, but gouty. The class for hens was in our opinion the best of the Dark Dorking classes. The cup went to a bird quite to our fancy, moderately dark in colour, large without being coarse in bone, and in admirable condition; second, a fine hen with a broad tail, a point which we admire, as such birds breed cocks with good sickles, she was not quite so white in feet or so blooming in condition as the first; third, a very long hen, the shape for a stock bird, lighter in colour than Mr. Burnell generally shows. Various other hens were well worthy of honour and remark. We specially noted 16 (Mrs. Radclyffe), a good white-footed hen; 20 (Walker), very large but with a double toenail, and a little gouty; 26 (Burnell), very rich in colour; 29 (Mr. Sapwell), very white in feet, and light in condition though small. As a class the hens were in good condition, and we were pleased to see prizes again going to hens of moderate darkness in colour, for we believe that the prevalent footy feet have some connection with very dark plumage. Cockerels were in our opinion the next best class to the hens, and the cup went to a grand and massive bird, lightish in colour with perfect comb and fine broad black sickles; his only fault is that his fifth toes does not turn up. Second, a capital bird, dark in colour with white in tail; his feet are good, but he has not the breadth of the cup bird. Third, a blooming dark cockerel again. Fourth, a well-shaped dark bird with white in tail and bronze on wings, his feet very white. Fifth, a good bird all round, with brown on the wing again. There were many other capital birds among the forty-six. We noticed 33 (Ellie), a tall white-footed bird, as yet a little raw; 36 (Lord Turnour), a thorough Dorking in shape; 59 (Beachey), a big dark bird, spurs not well inside; 68 (Beachey), good, but white in ears; 73 (Rev. H. F. Hamilton), a pretty bird. The pullets, thirty-five in number, we did not think equal to the cockerels. First was not in good condition, and we did not agree with the award. Second a very dark bird with very white feet, but with no other merit. Third, a moderate bird, rather dark in feet. Fourth, a decidedly fine pullet. Fifth, good in frame. We liked 88 (Burnell); 93 (Parlett), a capital bird all round; 99 (Barker), though her feet are too dark; 102, a big bird (the Duchess of Hamilton); 111 (Lingwood), large in frame.

**Silver-Gray** cocks were but a small class. First, a very small bird, we supposed his style procured him his place. Second, a fine bird but with white in sickle, and one spur not well inside.

Third, the largest bird in this class, but not well through the moult yet. The first hen is a magnificent bird, capital in colour and square in body. Second a much smaller bird, an old-fashioned Dorking in form. Third, a capital match for the first in shape, but very inferior to her in colour; 123 (Cresswell) the cup-winner at various previous shows, we much preferred to her owner's prize bird. Cockerels.—First a noble-looking bird with good comb. Second a well-shaped Dorking, but not in the condition of the first. Third a promising young bird, but very inferior to its owner's highly commended one. Pullets.—First a beautiful pullet all round, white in feet, silvery in general colour and deep in breast colour; she was claimed for £12, as was her owner's unnoticed pullet for the same sum. We have never before heard of two Silver-Gray pullets fetching so large a sum as £24. Second, a fine large pullet, a little mixy in colour. Third a very fair bird; 146 (Plummer), good but dusky in feet; 148 (Burnell), large, but in the moult.

**Cuckoos** were shown in pairs; there seems at last to be some improvement in this breed. First were a pair of chickens good in all points. The second pen contained a very dark cockerel, good in shape, but with an ugly double spike behind his comb. Third, old birds, the cock rather coarse but very large; 169 (Young), cockerel good in comb and worth notice; 170 (Lady G. Gordon), very young and promising chickens.

**Whites** were not quite so numerous as last year, but good and well shown. In cocks first was a young bird, second at Oxford, when we especially mentioned him as admirable in shape; unfortunately he is turning yellow. Second, a fine cock, not through the moult and with the yellow sap still much in his feathers. Third, a small cock but very white. Hens were a better class than the cocks. First-and-cup, a lovely old bird—the cup bird too last year—we never saw a better. Second, another grand hen, a good match for the first. Third, a pullet upon which we remarked favourably at Oxford; 189 (Darby), square and good in shape; 192 (Hayne), also a good Dorking. There was a five-guinea Selling class containing some very fair specimens, but such bargains are generally delusive.

**BRAHMAS, Dark.**—First, a grand old bird, good all round, the one of which "W." spoke so highly in Mr. Lingwood's "Basse-cœur." Second, a magnificent bird in capital condition with good broad hackle stripes, but disfigured by a bad comb. Third, hooked, not very good in colour, but with attractive wing-bars. Fourth, a broad, deep, and massive bird but in poor condition. Fifth, a small fairly-shaped bird with a horrid comb. We certainly should have put Mr. Ansell's bird about third in the list, for he is a grand fellow all round, though certainly at present out of condition. In hens the cup went to an exquisitely pencilled bird, but rather brown and terribly scaly in feet. Second, a fine bird, dark all over, with rather blunt pencilling, a little deficient in leg-feathering. Third, better pencilled on the breast than elsewhere. Fourth, too heavily feathered, with beautifully pencilled breast, but a little mixy on the wing. We thought 554 (Newnham & Manby) and 564 (J. F. Smith) two very good hens. In cockerels Mr. Lingwood is in his old place; the cup bird is one of the real Creeping type, somewhat hooked and high in tail, but with small highly bred head. Second, smaller, but in point very even with first. Third, a severely pocked bird. Long before the awards were given out we exclaimed on casually passing this bird at his plucked appearance, for the business had not been artistically done, and the exposed white under-down easily betrayed it. How the Judge did not at once find it out we cannot comprehend; subsequently on a protest being entered against the award, the bird was disqualified and the prize forfeited. Fourth, a little long on leg. Fifth, very peculiar in tail. Sixth, a well-shaped bird for breeding, but too yellow. Seventh decidedly bad in comb, otherwise a good bird, well grown tail and good orange legs. Beyond the winner there were very few we much cared for in this class. The mottled-breasted cockerels (when really mottled) were as last year decidedly inferior in the points to the Black-breasted birds; their price seemed in most cases low. First was a capital bird with curling hock feathers, but not really mottled. Second, prettily mottled. Third, a fine bird; 600 (Gamer), unnoticed and good. Pullets.—We must say we did not think the cup-winner by any means the best bird in this class; she is certainly good in shape but very small; her pencilling is really black, and ground colour white. Second, a fine large pullet, remarkably well-pencilled on back. Third, hooked, very dark all over with good breast. Fourth, slightly hooked, with silver ground colour, and very pretty round pencilling, rather brown on the back. Fifth, neat small pencilling but rather light on breast. Sixth, evenly-marked. Seventh, splendid in pencilling but rather narrow in body, and with a slipped wing. There were many remarkable birds in this class besides the winners; 643, very highly commended (Lingwood), well pencilled but a little leggy; 650 (Lingwood), spoilt by different pencillings being combined; 654 (Pearson), should have been noticed; 655 (Peake), very pretty; 673 (Peake), very dark and good in breast; 682 (Newnham & Manby), fine in shape; 694 (Mrs. A. Tindal), wonderful in pencilling, but almost devoid of leg-feathering.

**Lights.**—In his place of last year was Mr. Horsfall's grand old cock, looking as well as ever in all points, but much larger; he is now really a grand bird in size, as well as almost perfect in every point required. Second, lovely in colour and good in shape; we thought he had a suspicion of a loose wing. Third, too high on leg, but very fine. Fourth, the cup cockerel of last year, his high comb is his only fault. Fifth good in shape, but neck hackle full of sap. 725 (Percival), would have shown to better advantage, if not next to the cup bird; 727 (Haines), had good hackle-marking and foot-feathering but no shape; 737 (Horsfall), had a well-bred Brahma head.

In hens the cup bird was very nearly faultless, a little too much hooked. Second very good, not quite such a pure white as first. What a grand pair they would make! Third a little mossy in hackle. Fourth by no means a remarkable bird. Fifth a little sandy in tinge, and too white in tail. 740 (Petter), good but short of feather on leg; 750 (Pitt), deserved notice; 756 (Sambrooke), a capital hen in all points but foot-feathering; 758 (J. T. Smith), deserved notice; 767 (Lucas), capital in neck hackle; 768 (Bird), not large but pretty. Cockerels were an immense and magnificent class of seventy-five. The cup was a good award. The bird is very large and white. We thought his hackle a little twisted. Second almost devoid of neck marking, but finely feathered and with a beautifully laced tail. We must say we thought this award a mistake. Third very young and promising. Fourth small but shapely. Fifth small too. Sixth rather wanting in cheek. Seventh might have been higher, his only fault being slight yellowness. We cannot conceive why Mr. Borrow's bird (831) was left out, the only explanation can be, that being in an end pen he had the full sunlight upon him and so appeared tinged. We fancy he is the Oxford cup bird, and a noble bird he is too. The pullets numbered eighty-eight. One of Mr. Dean's birds which have caused so much discussion was deservedly first. She might be a little lower on the leg, otherwise she is perfect. Second would be a most useful bird in breeding, but her neck-hackle is too black. Third high on the leg, but may settle down into a fine hen. Fourth a little small but good all round. Fifth short of leg-feathering but fine. Sixth very small and narrow, but good in colour with beautiful neck-hackle. Seventh a big pullet, good in shape, a little wanting in neck-hackle. We thought 848 (Dowker), deserving of a place. 888 (Horsfall), fine in form, a little too dark in fluff. There were a few poor birds in this class, but nearly all those noticed would have been winners a few years ago.

**HAMBURGERS.**—In *Golden-spangled* cocks the first bird was good in comb, with heavy spangling and splendid in colour. His carriage is fairly good, though we have seen more elegant birds. Second good in comb and lobes, but not a sprightly bird. Third apparently doctored, and not good in comb, with lovely white earlobes. 1183 (Duckworth), a pretty bird with an honest comb. 1188 (Long), has many good points, but was apparently suffering from the new disease. The first hen was a beautiful bird, her spangling of moderate size throughout and evenly distributed, and her ground colour very rich. Second in fair condition, her moons larger and not quite so even as the first. Third an old bird with small and even moons, but touched with white here and there from age. We thought the *Silver-spangled* cocks a poor lot. First with comb very flat and suspiciously smooth on the top, his spangling moderately deep, carriage indifferent. Second a good bird all round save in tail, which has some ugly black splashes on it. Third we liked the best in the class. His carriage is good and his comb honestly so. We suppose his spangling being rather smaller than the present fashion pulled him down. The cup for hens went to the first *Silver-spangle*, a lovely pullet in blooming condition and evenly marked all over. Her neck-hackle stuck out oddly. Second more to our taste in marking than the cup hen, so pretty and accurate though not large in her spangling. Third large in moons, not very good in shape. We liked 1226 (Park). We much liked the first *Golden-pencilled* cock. It is refreshing to see a naturally-shown bird, and we heartily welcome a new exhibitor of the breed. The bird was, of course, run up at the auction, being only priced at five guineas. He is a good chestnut colour all over, moderately dark in neck-hackle, and attractively edged on tail. Second small elegant bird, very dark. His comb had apparently been a little improved. Third a cockerel with bronze sickles and indifferent comb. We much preferred 1235 (Tickner). The first hen very black in barring, but slightly coarser than the now generally admired type. Second rather broad in marking. Third not remarkable save for breast-marking. 1250 (Tickner), had small even pencilling, but not a clear hackle. 1254 (Judson), the richest ground colour in the class, but mossy in tail. The cup for the best *Hamburg* cock went to the first *Silver-pencil*, a lovely bird with exquisitely laced tail. We have before admired him. Second not very clear in colour, with a natural comb. Third very young and promising, too white in tail. *Silver pencilled* hens were very few. The first an evenly-marked bird. Second and third only fair.

**Black Cocks.**—First was a good bird all round save in comb, which had been unmistakeably doctored. Second looked very

good in colour, but had the advantage of a corner pen. We much liked the third, a purplish bird in tinge with good comb. Ten birds in this class received high commendations. We liked 1283 (Serjeantson); 1288 (Long); 1295 (Robinson). The *Black* hens were, unfortunately, alone of all the *Hamburgs*, placed in a bad light in an under tier. First was pretty in comb and shape, and small. Second a larger bird but good in style. Third rather plain in comb, seemingly a good colour. 1299 (Serjeantson), was to our eye the prettiest bird in the class, but of their colour it was impossible for anyone to judge in such a position.—C.

**COCHINS.**—These made wonderfully good classes. In old *Buff* cocks the first-prize bird was very large, and broad, and good in colour; the second also good, but immensely hooked; third an excellent bird all round, but not quite ready. In hens the winner was pale in colour and had her wings very untidy, or else was large and square; second a good hen, but we liked the third as well as any; she was good in colour, large, and deep, and held the same position last year. In cockerels we greatly admired the cup bird; he has not too neat a head, but his shape and colour were both good. Second and third two well-grown chickens of even colour and of pretty shape. Pullets were capital, and one or two—e.g., 295 (Lady Gwydyr), 296 (Darby), and 303 (Burnell) seemed worthy of higher cards than they received. The winner was rather spotty in colour and had ugly wings, or else was well proportioned; second was in all respects a superior bird. The third old *Partridge* cocks were all good; the second had a crooked toe, or else was of capital shape, while Lady Gwydyr's was to our mind a grand bird, just a shade too dark. In hens a fine bird was first, second a good bird too, third an immense hen, but not quite distinct enough in markings, but her shape and fluff were very grand. *Partridge* cockerels were, perhaps, one of the weakest *Cochin* classes. We liked very much pen 339 (Acton Tindal); he is young yet, but has much quality, and promises to make a good bird to breed from. The first was not very black in fluff, or else of light colour, and will improve yet. Pullets were moderate, and we thought all rather too red and rather wanting in markings. In *White* adult cocks the cup bird (Boissier) was snowy white and well shown; second was the first *Circencester* bird, and we do not like his comb; third was ugly in shape, but good in colour. We liked very much indeed pen 369 (Bamford). He certainly is not well through yet, but is immense in frame, very white, and heavily foot-feathered. In the hens we noticed many superb birds, as good as we ever saw them. First was of grand shape, fluff, and colour; second rather pale in comb, or else of good shape; third a large and useful hen, good in colour, comb, and feet. There were also other good hens shown by Messrs. Boissier, Tindal, Bloodworth, and Percival. Cockerels were only moderate, except the first-prize bird, which was the Oxford cup cockerel, but now is losing some of his pure whiteness. He is a grand chicken in every way, and we hear goes to a new master after Birmingham. Second stylish, but rather high in tail; third poor in colour and of not much shape. 400 (Copplestone) very white, but too *Pointer*-like in legs. In pullets the first and second were both good; for third place we preferred pen 411 (Turner). She is a large bird of good colour. Adult *Black* *Cochins* were rather a seedy lot; all looked untidy on the legs, and seemed to want more time. In cockerels we liked the winner best, then pen 437 (Storer), and then 443 (Lady Gwydyr). In pullets the first was good, and the second also. We much liked, too, Mr. Chawner's and Mr. Cook's.

In the £5 5s. Sale class there was a good hen in the first-prize pen of *Partridge*, and a good cock in the third-prize pen of *Whites*, but he had a crooked beak. The rest of the class was not up to the average of former years in our opinion. As for the *Langshans* it was a ridiculous farce to give them classes, and each pen seemed to point out the absurdity more, for many of them had really good *Cochin* points. They appear to be only the refuse and weeders of *Cochins*, and the second pen we know was this, for the owner had told us weeks before he intended entering such. "*Langshans*!" said an old *Cochin*-breeder, "call them '*Long Shins*.' We do not think our friend was much out. It is a pity such classes for refuse birds should be encouraged; we perceived nowhere the "*Wild Turkey*" blood in any bird.

**MALAYS.**—Sixteen pens of capital birds put in an appearance. The first very large and very shapely, but not in feather. Second was a good cockerel in every way, and we still think there is more growth in him; his mate was good and had capital carriage, being, too, of the colour we so much admire. The third were very tall, and good in condition and feather. The whole class was the best of the breed we ever saw. Miss Brooke sent a good pen in excellent plumage.

**SILKIES.**—These made a small class. Five pens were really good, another contained single-combed birds; and the other, the third-prize pen, was a hideous pair, yellow and green legs and red combs. We cannot imagine how the Judge selected such a pen. The first were rather large and very white, but too heavily feathered for our own taste; second a good pair all round, only

the cockerel a little too red in comb. They were well washed and in pretty feather.

**POLANDS.**—All colours came well to the front, and we saw Mr. Boothby sent some *Buff Chamois*. We like them much, and hope he will continue to work them up. The cup went to a *Golden cock*—light, and large in crest, though we preferred, as we believe did many more, the unnoticed pen of the same owner. Golden hens were all good, and we think they were well selected. Polanders seem to be increasing in favour. In *Silver* cocks the first was grand in crest and attractively marked, shown too in good condition and feather; second also splendid, but wants a week or two more to make him perfect; third a good bird in every way. Lady Dartmouth's bird, bar his bad colour on his back, was as good as any bird for crest and markings. The first and second *Silver* hens were two grand birds, as good as we ever saw any, and we cannot imagine there can be any others of the colour to beat them. In the two next classes were the *White-crested Blacks*, a breed which was once so near extinction, and now is "blossoming like the rose." They numbered only one short of the *Silvers*, and were of splendid quality. We know one or two thought the first bird should not have won in cocks; but we did not, and we walked up and down the class before the cards were up, and still "spotted" him. His crest is not through, it is true, but his hackles, lustre, and condition are things to be remembered. The second was a grand old cock with very white crest. For third place we almost preferred 1606 (*Lias*) or 1604 (*Darby*). In hens the first bird is a gem. Such a pullet, for she was a pullet, if she lives to be a hen must be a marvel, for she is that now. Second a grand hen, very white, and very good. Third a very pretty hen in every way. 1614 (*Darby*) a grand hen, known to be eleven years old.

**LEGHORNS.**—Well done the Club! twenty-eight pens of *Browns*. Were we members we should want the *White* subscribers to pay a double subscription, as the Club must have often to make up their deficit. *Brown* cocks alone numbered as many as the *White* cocks and hens. We think the condition of the first cock in *Browns* won him the place, for in head we liked the second best; but here, as in *Houdans*, we fear there is often much "topsy-turveydom" in judging. In hens we certainly liked the second best; her shape, colour, ears, and bloom we thought all superior, though the first was by no means a bad one. Third we fancied was rather small, or else pretty in head and comb. In *Whites* the first cock was very neat, and in his place; second also good all round; third rather bad in colour. The hens were good, and we can imagine them looking well on a grass run. They seemed to be well placed, and all looked in good condition, and as if in laying order.

**SPANISH.**—In adult cocks the first was large in face and good in comb, and was well selected, as appeared to be all the *Spanish* winners; second also good, but once or twice when we passed him he looked rather mopish. In hens the first was a fine bird, good in comb and smooth in face. One or two other good hens only want more time, as they had all the quality about them. The winning cockerels were all fair birds, but they too at times looked a little tucked-up by cold. We do not know if they wanted more food, for we heard many say that the birds were not given enough; certainly they did seem ravenous, and especially on the last day. In pullets the first was certainly in the best condition, and was well selected; and we heard many admire this cup bird very much. Second a good bird, but a little untidy in face; third not so neat as first.

**GAME.**—The first *Black Red* cock, which also won the cup, was a grand bird, and had colour, shape, and carriage; second also very good in head, and of capital colour. In cockerels we almost preferred the second bird, for his head points seemed better; but the first had perhaps the advantage in colour. In hens all the winners were good, and seemed to be well chosen out of thirty pens of fine quality. In *Brown Red* cocks we admired the first very much; he has good colour and good limbs. Second had rather an ugly tail, or else was capital in other respects. In cockerels the cup bird is not yet in full show; he has many good points, but we believe one or two *Game* breeders preferred the third-prize bird. 1406 (*Martin*) we were told was the champion *Islington* winner. He is a grand chicken, and has very fine carriage and colour. In the next class pullets won all the prizes; all good, and all well chosen. In *Duckwing* cocks the cup bird is a beauty, in fine feather of good colour; second also very good, and closely coming up to the cup bird. A grand pullet for colour and shape won in this class. In *Piles* an old yellow-legged bird was first, and second a willow-legged one; third a *Black*. In hens all the prizes went to *Piles*. The third we much admired as good in colour and shape. In the £5 5s. class *Brown Reds* won first and second, and good *Duckwings* third, which might well have come in between the *Brown Reds*. On the whole—i.e., all told—the quality was very good indeed.

**THE VARIETY CLASS.**—This was an excellent collection, and created much admiration among the visitors, who always seem

to enjoy a medley. First large *La Flèche* chickens; second good *Cuckoo Cochins*. We noticed Mr. Montresor's real *Indian Game*, and a beautiful *Sultan* hen in Mrs. Christy's pen. A good pen of Miss Palmer's *Dumplings*, and a fine pen of *La Flèche* (*Upsher*) we also saw. *Bantams*.—These classes were all good. Among the *Game* the cup *Black Red* cockerel and cup pullet were both very stylish and pretty, with good carriage. The *Brown Reds* too were a capital lot. We much liked, too, the cup *Pile* cock and the first *Duckwing* hen; the latter especially was very clear in colour and neat in shape. *Black Bantams* were a very fine lot, and we quite liked the winners. In *White-booted* colour seems to have been thought of before boots, in which the winners were excellent. 2337 (*Boissier*) yellow-legged, but very heavily feathered; 2340 (*Woodgate*) empty, the birds not having come back from *Cirencester* through railway carelessness; 2341 (*King*) very good indeed, but the cockerel had recently lost a serration of his comb. Sebrights were admirable, but of the *Silvers* we liked 2344 (*Leno*) best, the cup pair not being quite free from a cloudy lot on the silver part of most feathers; second pretty *Gold*s, of a deep shade; third very pretty *Silvers*, with neat lacing. In the *Variety* class excellent *Black-booted*s were first, very lustrous in colour, and in fine condition; second pretty *White Rosecombs*; third *Japanese*; 2362 (*Walton*) good *White Rosecombs*; 2358 (*Davis*) *White Frizzled*, very beautiful in colour and feather, but the claws did not match in number, neither was the hen's comb at all pretty or shapely.

**WATERFOWL.**—*Aylesburys* were capital. The three winning pens all good. In *Rouens* the first drake walked in easily. In *Ducks* the winners were well coloured, shapely, and massive in appearance. Mr. Parlett also had a good bird in pen 2483. As for the *Blacks* we will not pretend to judge of them. The awards all seemed to be an upsetting of previous decisions. We fully believe nearly every exhibitor thought his own birds the best. Certainly the colour was generally very fine, but we have seen smaller birds: still, we are no advocates for their being so tiny, and always prefer colour. We admired the cup pen and thought they well deserved a place, but whether before Mr. Sainsbury's, or Mr. Brown's, or Mr. Malden's, is an open question.

In the fancy *Ducks* we thought several out of feather, still the whole class was highly commended. First went to *Variiegated Kaserkas*, so we were told they were named, others call them *Paradise Ducks*; *Spotted Bills* took second, and *Mandarins* third. Mr. Leno showed a choice pair of *Brazilian Teal*, and Mr. Booth good *Mandarins*. In *Geese* Mr. Fowler again won the cup. We noticed a pair of curly *Sevastopol*, which seemed to require a "tub." In *Turkeys* we heard grave doubts as to the age of some of the specimens, one exhibitor positively affirming that a bird had won as a "poult" for two years in succession. If so it is a pity such things should be; and as the matter lies with the Judges they alone can prevent the occurrence. All the classes were well filled, and the birds exhibited by Mrs. Wykes were undoubtedly "poults," and well-grown birds too.—W.

### THIS AUTUMN'S SEASON FOR BEES.

In the *Journal* of November 9th I see that Mr. Hunter speaks of this autumn as an equally unfortunate season for bees, though in a different way, as the last. My experience in both cases has been exactly the reverse, except only as to the poverty-stricken condition of the hives last autumn. My hives last year were far less than usually populous, whereas this year they are splendidly full of bees. The cause of this difference, however, is really the same in both cases. Here our honey season, though good for us, would doubtless have been considered a poor one in the more favoured north and east, and perhaps the south of England. Hence our bees, not being overstocked with honey, have been breeding unusually well, and give good hope of thriving next year, supposing all other things to go well.

Once only have I known such a splendid time for ivy, both in respect of honey and pollen. Day after day the bees have been at work early and late, with the same loud humming going on as in summer time, and I see honey glistening in deep open cells all over my hives, not, however, in such quantities as to prevent the queen laying eggs, as witness the young *Italians* issuing from the hives every fine day. One or two hives I have fed slightly though continuously, just to stimulate them; but I do not find that those I have not fed have been less active in breeding or honey-gathering. I am, therefore, remarkably well off as to my prospects for next year.

I am pleased to observe that Mr. Hunter has carried out this year what I have more than once advocated in this *Journal*, I mean the absolute and entire plunder of the honey in the hives, and the subsequent continuous feeding-up of the bees during the autumn months. The result given by him is exactly what I have predicted, as I have also myself experienced—namely, "teeming populations and abundance of brood in all stages." Nothing can be desired better, if to this be superadded a well-provisioned hive by continuous feeding.

In the belief that bees are best left to themselves after *Martin*-



mas, I have this day (10th November) anticipated the saint's anniversary by twenty-four hours, and packed-up against rain, and snow, and frost, all my exposed hives, covering them up with every warm thing I could lay hold of, chiefly old felt druggot, and protecting all with boards and tiles. They look queer; but what of that? as they are out of sight in a sheltered corner of my garden. There let them rest till spring suns once more shine.—B. & W.

### THE WAX MOTH AND FOUL BROOD.

WAX MOTHS and the disease of foul brood have been rather prevalent this year. We never noticed so many wax moths flying about hives as we have seen this season, yet we have not found the combs of healthy hives injured by them—*i.e.*, by their grubs, though these have been frequently found on the boards of healthy hives, generally where the inside edges of the hives touch and rest on the boards. The grubs of wax moths are covered for a time with a downy or wool-like substance. While in this state, and while growing into it, it is not easy to determine how and by what means they are fed, for the combs above them remain uninjured till the maggots begin to burrow amongst the cells, devouring the wax as they burrow. In eating the wax they leave the pollen, which falls as dust on the boards. The wax moth is a kind of small butterfly of a dirty white or creamy grey colour, and doubtless has a keen scent for wax. Last summer I placed a hive of combs in a hothouse and another in an open shed. The one in the shed was covered with a piece of cocoa-nut matting. Of course the moths could not penetrate the matting, hence they deposited their eggs in or on it. Soon it became one mass of woolly maggots. These were given to the hives before they began to feed on the wax. The combs in the hothouse were eaten by the grubs. I do not think that the moth does much harm in this country to healthy hives, but as it is sometimes hatched in all kinds of hives it is well to examine them frequently and keep their boards clean.

Foul brood was found in many hives this year. I remember no season in which it was so prevalent. The cause of the origin and progress of this malady is still veiled from the most advanced and enlightened apiarian. Every attempt to investigate and explain the mystery of foul brood has been unsuccessful and unsatisfactory. The best that has been done by way of explanation has consisted merely of guess work only. My own guessing has gone in the direction of imperfect feeding or improper food. One thing is certain—there is no cure for the plague of foul brood but the removal from the hives of the diseased combs (plague spots), or, better still, the removal of the bees wholly from their lazar-houses into clean hives. Hives affected with this malady never prosper, but invariably become worse and worse by the multiplication of diseased cells, the stench of which becomes unbearable, often causing the bees to abandon their hives in utter despair and go off as swarms; and sometimes they leave the foul combs and cluster on the outsides of their hives or underneath the boards and there build combs. The existence of foul brood in hives may be discovered by the shape of the cell lids covering it, by its smell, and by the conduct of the bees.—A. PETTIGREW.

### BAR HIVES.

In reply to the questions forwarded to me, the hives I use are after the Woodbury principle, 8½ inches deep, 14½ inches square, inside measure; these hold ten frames. Some I have just made with fourteen frames, which I shall try next season. A very large hive would not suit this locality, as it is only a fairly good one for honey-gathering. Your correspondent should be guided as to size of hive employed by the amount of pasturage for bees in his particular neighbourhood. Of course other considerations must also be taken into account, such as size of swarm, time of swarming, &c.; but by all means give the bees plenty of room below if large supers are to be filled, and have that space well supplied with combs and a reasonable amount of food early in the season by gentle feeding, and, if possible, by the insertion of empty combs where there are vacant frames, so that the glut of the honey season may go to the super. All my bees are the common English kind. I hope to give the Ligurians a trial next season.

Your correspondent, "J. H. E.," asks whether any brood was reared in my supers. Among thirty-three supers only two had a few cells at their base in which the queens had deposited eggs. One of these had but perhaps twenty cells so occupied, after which her majesty had retired; but in the other (a very large bell-glass, which I had intended for competition) the whole of a central comb was appropriated to breeding purposes. This super I had to break up and use at home, employing the dark comb in filling a frame for another hive. The queen does not enter one out of twenty supers if the slits for the entrances are made towards the sides of the hives, not over the central combs. This next season I shall work most of my supers upon sheets of

perforated zinc,  $\frac{1}{4}$ -sized holes. Mr. Cowan's grand supers were so worked.—P. H. PHILLIPS, *Offley Lodge, Hitchin.*

### OUR LETTER BOX.

**PRODUCTION OF EGGS (W. O. M.).**—Truly those who write poultry books have much to answer for. If you are never satisfied till you obtain 150 eggs from each hen you will lead a worrying life. It is not to be done. We do not tell you it never happens—we know that it does, but such examples are rare occurrences. The great advantage of keeping pullets is, that they lay in the winter if they are so hatched as to arrive at maturity in that season. There is no winter-laying breed; it is a question of age. If birds are to lay at six months old, and the eggs are wanted in November, preparation should be made early in May, and pullets hatched then put aside for the purpose. By such provision eggs may be secured through the winter. It can, however, be done only with pullets. After they have become hens they follow the ordinary course of nature, and lay in their natural season. As a rule the older hens are the worse they lay, and if eggs are chiefly wanted we advise you to keep no birds more than two years old. There is no objection to your feeding, only we think you may advantageously substitute ground oats or barley meal for the morning feed of Indian corn. We advise you to discard your hens of 1874. You will sell them easily. If you want a regular and full supply of eggs you should be getting them now from pullets hatched in April and May, and if the remainder of your stock was made up of last year's pullets, they would begin laying when the others left off. You will not induce laying by over-feeding; you will make fat, which is a great hindrance. We do not care for cinder ashes; but it is essential the birds should have dry sand or road grit to dust in. It keeps them free from vermin, and no fowl is healthy unless it is clean. We believe you may keep your cock till he is three years old—not longer. We do not quite agree to your theory as to the influence of the age of the cock on the number of eggs. We do not believe it has anything to do with it.

**CRYSTAL PALACE POULTRY SHOW.**—In the Trumpeter Pigeon Class, Mr. J. Lederer, Liverpool, informs us that he won the cup and first prize, third prize and highly commended, with three Trumpeters.

**ALEXANDRA PALACE BEE SHOW.**—We have a letter for T. W. Cowan, and one for Mr. J. M. Hooker, but do not know their directions.

**WEIGHT OF HIVES.**—MR. HALE (*J. H. Eldridge*).—Some bee-keepers weigh their hives with the boards, and some without. The weights given by Mr. Pettigrew always include the hives, and sometimes both hives and boards. Ordinary hives weigh about 5 lbs., and boards 4 lbs. each. Mr. Hale has been written to, but no answer has yet come. In early summer he informed us that his large stock of hives (about one hundred) had been reduced to twenty-eight stocks, chiefly by deaths. Whether he tried the experiment promised or not we cannot tell, but fancy that the deaths in his apiary interfered with his plans.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 49" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1876.	Barometer at 39° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Nov.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 15	29.499	54.3	54.1	N.N.W.	47.0	59.8	48.0	90.6	45.9	0.160	
Th. 16	29.404	56.3	55.0	S.	47.8	61.4	49.0	87.0	44.0	—	
Fri. 17	29.800	50.5	49.2	W.	48.5	57.1	49.6	90.1	45.3	—	
Sat. 18	30.058	51.7	51.0	S.	47.2	56.0	49.8	83.1	37.0	0.170	
Sun. 19	29.792	48.0	46.1	W.	48.4	56.2	45.8	79.6	43.0	—	
Mo. 20	29.729	48.6	46.5	N.W.	47.5	49.7	43.7	56.4	39.2	0.088	
Tu. 21	30.055	44.9	44.2	N.	46.2	48.8	40.0	53.2	35.7	—	
Means.	29.762	50.6	49.4		47.5	55.6	45.7	74.1	41.3	1.863	

### REMARKS.

- 15th.—Rainy morning, fine afternoon, but foggy in the evening.  
16th.—Very wet morning; bright and sunny afterwards, and starlight night.  
17th.—Beautiful morning, but rather cloudy at times during the day; fine at night.  
18th.—Foggy early; rain commenced at 11.15 A.M., and continued at intervals all day.  
19th.—Fine morning; pleasant all day, at times very bright.  
20th.—Morning early fine; but rain began about 10 A.M., and continued more or less all day.  
21st.—Rather dull and damp all day, but not much rain.  
Remarkable change of temperature, especially at the beginning of the week. The mean temperature of the week has been nearly 13° above that of the one preceding.—G. J. SIMONS.

### COVENT GARDEN MARKET.—NOVEMBER 23.

A GENERAL stagnation is experienced in all departments of our Market, and prices rule somewhat lower. St. Michael Pines are again in the Market, and bid fair to be sold at prices this year which will fail to remunerate the growers. Kent Cobbs with a better demand are firm at last week's quotation.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	1	6 to 5	Nectarines.....	dozen	0	0 to 0	3
Apricots.....	dozen	0	0	0	Oranges.....	½	10	8	0 to 16
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	0	0	0
Currants.....	½ sieve	0	0	0	Pears, kitchen....	dozen	1	0	8
Black.....	½ do.	0	0	0	dessert.....	dozen	2	0	8
Figs.....	dozen	0	0	0	Pine Apples.....	lb.	2	0	6
Filberts.....	lb.	0	6	1	Plums.....	½ sieve	0	0	0
Cobs.....	lb.	0	10	1	Quinces.....	bushel	0	0	0
Gooseberries.....	quart.	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse....	lb.	1	6	6	Strawberries.....	lb.	0	0	0
Lemons.....	½ 100	6	0	10	Walnuts.....	bushel	5	0	8
Melons.....	each	1	0	8	ditto.....	½ 100	1	6	2

## WEEKLY CALENDAR.

Day of Month	Day of Week.	NOV. 30—DEC. 6, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
80	TH		48.0	34.5	41.3	7 45	3 53	2 42	6 40	14	10 57	335
1	F	PRINCESS OF WALES BORN, 1814.	48.5	34.9	41.7	7 47	3 53	3 19	8 10	15	10 34	336
2	S		47.4	33.7	40.5	7 48	3 51	4 16	9 31	16	10 11	337
3	SUN	1 SUNDAY IN ADVENT.	47.0	35.8	41.4	7 49	3 51	5 33	10 33	17	9 47	338
4	M		48.1	36.4	42.2	7 51	3 50	7 8	11 15	18	9 23	339
5	TU	Caspar Bauhin died, 1634.	49.0	35.2	42.1	7 52	3 50	8 35	11 44	19	8 58	340
6	W	Royal Horticultural Society—Fruit and Floral Committee at 11 A.M.	48.2	36.7	42.4	7 53	3 50	10 3	0 a 3	20	8 32	341

From observations taken near London during forty-three years, the average day temperature of the week is 46.7°; and its night temperature 35.3°.

## ALTERATIONS.



HOW much meaning is attached to that one word it is impossible to say, and equally impossible is it to estimate the amount of labour which every year must be credited to the subject which it represents. When we think of the word—or rather the work which it shadows—we are constrained to think of the taste which is exercised annually—taste gone mad in many instances, possibly. We are reminded also of the changeful disposition of owners and gardeners, for certainly neither one nor the other can long remain satisfied without “making alterations.”

Alterations in the minds of some would appear to be the be-all and end-all of a gardener's duties. No sooner is a gardener, especially a young one, placed in charge of a garden than he must commence making changes. A hundred to one if his predecessor—however ably he may have conducted his change—will be regarded by the “man in possession” as having been competent in his calling, and forthwith the weak points are paraded and every nook and corner is sought to give a handle wherewith to grind out a tune—a dolorous ditty—on neglect, delinquencies, and ruin which the new man is called upon to inherit. And now commences the great work of alterations. These may be necessary, or some of them, and they will look quite as well when carried out if unaccompanied by any running commentary on the shortcomings of someone who left them to be accomplished, and provided an opportunity for the operator of making himself famous.

In essaying the making of alterations it is always highly important that a full and proper understanding should exist between an employer and gardener. For the want of this necessary and proper agreement much unpleasantness has arisen in the past, and which has too often led to inconvenience on the part of the master and loss—serious loss—to the man.

Let it always be remembered that it is not sufficient for a gardener alone to consider that alterations are needed, and forthwith proceed to make them on the property and at the expense of another. The owner must also see the necessity of the projected changes and should give his sanction to what is proposed; then is responsibility removed from a servant whose care on ordinary matters of routine and his daily labour is sufficient for one in his position to bear. I allude not now to trivial changes which a man may make for his own convenience and the better performance of his duties, but to radical and fundamental alterations on which the owner of a garden very properly desires to be consulted.

The question now arises as to what must be regarded as a radical alteration. All alterations involving extra labour and outlay naturally come under this category, and especially so if the cost is not merely a “first cost” and then done with, but which may render further outlay necessary extending over an indefinite period. As a

general rule alterations when made in gardens involve additional labour being expended for some time after they have been done. That is a condition which requires serious consideration, for what may be considered a trifling matter by a gardener may be a vital point with the owner of the garden. Some there are who desire improvements rendering their grounds more picturesque and enjoyable, and who do not hesitate to allow any additional outlay which may be required as a consequence of any changes which may be made to effect that end, but the great majority are otherwise disposed. They do not feel themselves justified in sanctioning further expenditure, and would rather forego the pleasure of making improvements than incur the cost of them. When this is known—and there is generally no difficulty in ascertaining it—it behoves a gardener to proceed cautiously and not permit his enthusiasm, which is pardonable and even laudable in itself, from impelling him to a course of action for which he may have to pay the penalty at some—it may be not far—distant date. All alterations which have a tendency to permanently increase expenditure are decidedly of a fundamental character, and should never be carried out without the sanction of those who have to pay for them. Some owners of gardens are sufficiently candid to admit that alterations are desirable, but to that append a warning that if the grounds cannot be kept in order after the projected changes without further assistance the gardener will have to bear the responsibility. That is a difficult position for a gardener to be placed in, for the very wish of an employer will often tempt an earnest man to run some risk of his own welfare in order to meet the desires of his employer. A gardener in such a position must think intently over his project and make his calculations with great care lest failure ensue, and in that case the charm of making alterations vanishes, and what was once ardently considered to be an improvement turns out a mistake. That is not a mere possibility which may occur, but an unpleasant fact which has occurred a hundred times, as many gardeners know to their cost. A long experience has brought many instances of this nature under my notice. The last was the case of an earnest able gardener and a kind employer. The lawn was large, and by dint of hard work was well kept. It was surrounded by belts of trees, with shrubs and evergreens sweeping the grass. It also contained many large clumps of trees, &c., which similarly covered the ground, forming agreeable natural thickets and revealing little or nothing of the gardener's art. With these the master was satisfied, but not so the man, who, in spite of pleasantly-given warnings of the consequences of making more work, laboured hard and long in opening out the clumps, pruning the shrubs, raking the ground, and planting flowers. The neatness and trimness which he produced were at the first pleasing in his sight, but the labour of keeping the grounds in order exceeded his anticipations, and the garden as a whole could not be so well kept as formerly, and after working for a few years through “all the hours of daylight,” he was obliged to relinquish a charge which for

more than thirty years had afforded a comfortable home for his predecessor. A radical alteration had been made without sanction and encouragement, and what at first was pleasant to the eye eventually resulted in bitterness and disappointment to all concerned.

Other alterations which are really fundamental in the estimation of an owner may appear trivial in the eyes of a gardener, and a man should always consider well, and also make inquiries, before uprooting a tree, shrub, or plant which cannot be replaced. It is well to remember that there are plants and trees in many gardens which possess no real beauty, yet which are highly prized for the history which attaches to them, and of which a "new man" may be ignorant. Never shall I forget a mistake which I once made in destroying a common Rose bush. It had no beauty, for it seldom flowered, and it occupied space which I conceived might be rendered more attractive. A hundred pounds would not have purchased that Rose, for I found out when too late that it had been planted there after having been rooted from a cutting in a bottle of water by a dearly-loved son of my employer. That Rose was a memorial of the dead, and its loss was mourned more than would have been the loss of a jewel. I was forgiven for my thoughtlessness, but I have never forgiven myself. I have ever afterwards been careful never to destroy what may have been in my eyes unsightly without being sure that I was acting safely. A little inquiry costs nothing, and may save much. By acting on the principle of destroying nothing which has long been established on the property of another without a clear understanding from the owner, I have been enabled to pass pleasant years as a gardener, and am now rewarded by enjoying the confidence and respect of my previous employers.

The present is the time of changes, and new gardeners are going to old places. Let me ask them to remember two things—not to mar the character and reputation of their predecessor, nor hastily to uproot any old belongings of a place lest they should have a "hidden value" and a worth not to be estimated by their beauty.

This is also a period for "making alterations" generally. Let there be an understanding that these are not only required by the gardener, but also by the owner of the gardens, otherwise contentions may at some time arise, and the weakest will fall.

Because I wish to see disputes averted and confidence increased between employers and gardeners, and because I know that you, Messrs. Editors, desire the same, I submit this as the advice and experience of—A RETIRED GARDENER.

### MANETTIA MICANS.

"Stove evergreens—climbers." Such is the brief but comprehensive description applied generally to this genus in our "Johnson's Dictionary." It is somewhat vague, and if an approximate height were not appended to the description of each species, one would feel disposed to attribute the rarity of *Manettias* to a misconception of their real value by those who have only seen this description and have not had the privilege of beholding any of the plants in full flower.

Standing upon my desk close by me as I write is a plant of *Manettia micans*. It is November 22nd. A dull murky day of the true November type; a leaden sky, bare-limbed trees, decaying foliage meet the eye outside; but a glance at my plant robs the day of its dullness, for is it not bright with hundreds of gay flowers nestling among foliage of deepest freshest green? Let me describe the plant and its culture, and try if I cannot induce everyone having a plant house or pit that is kept at a winter temperature of about 55° to grow some of it. Including the pot my plant measures 2 feet high. It has a clear stem of 6 inches, being trained upon a wire trellis of the form of half a globe 10 inches in circumference, more for the sake of novelty than for any decided preference for that form, which in reality is not only concealed by the foliage, but is altogether lost sight of in the somewhat wild grace of the plant, for after the trellis was well clothed the growth was left to ramble unchecked by training of any kind, and so notwithstanding its wire supports it now presents very much of the free and graceful aspect of a wild child of Nature. The foliage, both in form and colour, closely resembles that of the *Bourvardias*, while the narrow tube-shaped flowers are bright scarlet tipped with yellow, each flower springing singly from the axil of a leaf, and as they have somewhat long footstalks, and are borne upon slender flexible branches, they present the most sprightly appearance imaginable. About a dozen plants

are now in full bloom. They are, moreover, growing freely, and abundant blossom buds are visible upon the young shoots, so that they will continue useful for a variety of decorative purposes for some time to come. Some of the plants are cone-shaped, others follow the outline of a balloon, but all are alike ornamental and useful.

Concerning the culture of these plants there is very little to say. The cuttings were taken in March, and they rooted freely in an ordinary hotbed. The young plants were potted in a free mixture of loam, old hotbed manure and sand; they were placed in a vinery, shifted into blooming pots 6 inches in diameter when they had plenty of roots, fastened to a trellis as the branches lengthened, syringed, watered, trained regularly, kept in the vinery till October, and then taken to the stove where they have in due course burst in flower. What can be more simple than such a cultural process as this? Certainly nothing can be more satisfactory than the present condition of the plants to which it has been applied.

I ought not to omit pointing out the value of this *Manettia* as a source from whence an abundant supply of sprays may be had to mingle with other cut flowers. The plants, too, may also be turned to account for clothing the pillars of a warm conservatory, and also for furnishing hanging baskets, either alone or mingled with other plants, especially with Ferns and Lycopods.—EDWARD LUCKHURST.

### THE RANUNCULUS.

It is with feelings of great regret that I have heard from Mr. Carey Tyso of Wallingford that he is obliged to give up, owing to ill health, the cultivation of this lovely flower, with which his name has been for so many years associated. He has been the chief grower of *Ranunculuses* in the south for a long time; and although of late one has missed his stands of beautiful flowers from our leading shows, yet there was a time when he was constantly taking prizes there and surprising the public with the symmetry and marking of his flowers; and thus the small band of florists in the south is lessened, and I suppose my own collection will ere long be the only one of any extent where these flowers are kept under name. In the hope, then, that some lover of flowers will make use of the opportunity—(for Mr. Tyso is offering his roots at a very cheap rate; sorts which I recollect being priced at 10s. and 20s. a-piece now being as low as 6d.)—of commencing their growth, I venture to put forth a plea for them.

I know of nothing more beautiful and refined in the whole range of florists' flowers than a bed of well-grown *Ranunculuses*. Nowhere is there greater perfection of flower, symmetry of shape, or variety of colour. Unlike the Carnation, *Picotees*, and *Pink*, they require no art of the dresser, for to attempt it would be like painting the Lily. Unlike the *Dahlia* they are dwarf in habit, but like it in the immense variety of colour. Amongst them you have olive, red, crimson, grey, white, purple, and almost black selfs. You have cream-coloured, yellow; grounds mottled, regularly spotted, and edged like *Picotees*; again white grounds spotted and edged, and others striped like a Carnation; and I think it is impossible to look upon a bed of well-grown and well-bloomed *Ranunculuses* without feelings of deep admiration.

But the question may be asked, Are they not very troublesome to grow? Yes, but is there any florists' flower that is not? And this I believe to be the secret of their decline, as it has been of *Heaths* and other plants we used to see so fine in former days. The great idea in modern gardening, at least in the minds of owners of gardens, is decoration. The conservatory must be "gay;" the garden must be a blaze of colour; and all the energies of the gardener are so taxed for this end that, except in very rare instances, can he (even if he have the inclination) carry on the cultivation of plants requiring so much care and making so little display. But to the amateur who cultivates his own little plot I would commend the *Ranunculus*: it requires care, but it will amply repay him for it.

The soil it delights in is a cool, close, not stodgy soil; but the finest beds I ever saw were grown in the ordinary soil of a garden. My present plan is to grow them in the beds in which I have grown *Gladioluses* and which have been well manured for them. This is sufficiently rich without adding any fresh manure, which the *Ranunculus* dislikes very much. There are two points in its culture on which great stress must be laid—the depth at which the tubers are planted, and the time of taking them up after flowering. I know not what is the reason,

but if the tubers are planted at any other depth than  $1\frac{1}{2}$  inch they do not seem to succeed; and hence I have a board notched to that depth, and make the rows with it, so as to keep the crowns at the required depth. Then, again, they must not be left too long, especially in wet weather, after they have bloomed before the roots are taken up, for they very soon begin to start; and if they do, that is certain death to the tubers: hence it is best to put a covering over the bed to keep it from rain. I this year adopted the plan of placing the awning which I use for my two best *Gladiolus* beds over them; this not only kept them from rain when in bloom, but made the taking-up a much easier and pleasanter process.

I have little to say as to choice of soils. My own collection numbers 320 varieties, but, as in most florists' flowers, there are many so nearly alike that only the eye of a connoisseur can detect the difference. But should anyone be moved to undertake their culture they could not do better than place themselves in the hands of Mr. Tyso, tell him the limits to which they will go, and I will vouch for it they will not be dissatisfied with his method of treating them; and I should be glad to find that I have induced anyone to undertake the culture of a flower which is associated with my earliest garden love, and of the intrinsic merits of which I think so highly.—D., Deal.

#### DECIDUOUS TREES AND SHRUBS.—No. 4.

**LARCH** (*Larix europæa*) is perhaps the most generally useful of timber trees, and is also ornamental; but, as generally planted closely with other trees, the beauty of the Larch is not apparent. There is no objection to grouping the trees in masses, planting Scotch Firs, Austrian and Corsican Pines on the higher ground, and the Larch and Spruce separating the masses; and where commanding positions do not exist for the Pines, much may be done by grouping the subjects rather than disposing the trees equally over the whole surface. By one mode we obtain distinctness of view with variety, and with the other indistinctness—monotony. Similar remarks apply to a mixed hardwood plantation of Oak, Ash, Elm, Sycamore, &c. If taste be essential in every industry, in none is it of more importance than arboriculture.

In ornamental planting Larch has been singularly neglected. Only in a few instances are perfect specimens to be seen, yet what finer object can be in spring than a Larch 90 or more feet in height towering upward in graceful conical form, its branches starting at right angles from the stem, then gradually curving downward, anon near the extremity curving upward, from which emanate the graceful drooping spray clothed with soft green leaves and studded with its many incipient crimson cones? In autumn its foliage assumes a yellow, often an amber, tint, and is effective in association with the "frosted" foliage of Piceas and the darker hues of Pinuses. Plant Larch; it is the best of nurses for other trees, and is adapted for ornamental purposes. There are ample materials for a group, for besides the common Larch are the Red American (*L. americana*, syn. *microcarpa*); the singular Sikkim (*L. Griffithiana*); the bushy Dahurian (*L. dahurica*); and the Golden (*Pseudo-Larix*), the foliage of which in spring is light green, changing in autumn to a beautiful golden-yellow.

The Deciduous Cypress (*Taxodium distichum*), is a very handsome pyramidal tree, with foliage of exquisite loveliness from its fineness and autumn tints. This tree does not succeed in an exposed situation, preferring a free open soil and moist, but free from stagnant water. *T. sinense* is very elegant, its shoots having a feathery appearance, drooping in a graceful manner.

Deciduous trees with umbrageous heads are best as standards with clear stems of not less than 6 feet, nor exceeding 10 feet, and having finely-formed heads. Trees of this description tell well in parks either in groups or singly. Some of the most desirable are Maples, particularly the Norway Maple (*Acer platanoides*), which is of rapid growth, and has fine bold foliage. 50 feet. The Scarlet Maple (*A. rubrum*) having finely tinted leaves in spring and richer tints in autumn, 40 feet; it is a little less free in growth than the former. The North American ally, Virginian Red Maple (*A. virginicum rubrum*), though of less growth is more handsome (20 to 30 feet), and appears to need moderate shelter. Sycamore (*A. pseudo-platanus*) is good in a bleak situation, being of rapid growth and making a handsome head of bold foliage, and endures the sea breezes well. 50 feet. Its variegated form

is not so free in growth, and yet grows fairly in an exposed situation. It is very fine, its foliage contrasting well with the Purple-leaved Sycamore (*A. pseudo-platanus purpureum*). Both 40 feet. They will succeed in almost any soil, and make a fine group.

**HORSE CHESTNUT**.—Grand for avenues and noble for parks. In an exposed situation the trees do not do well, not even the common (*Æsculus Hippocastanum*), otherwise they are very free in growth and beautiful, alike from their flowers and foliage. 40 feet. A double white and double red (30 feet) do not grow so strongly as the species, and of lesser growth still is the scarlet (*Æsculus rubicunda*). 20 feet. These, with the variegated (*Æsculus Hippocastanum foliis variegatis*) form a very effective mass. In any soil freed of water they thrive, but flourish best in medium-textured loam overlying gravel.

**LIMES** do not succeed in high exposed situations, growing very slowly; but the better forms of the species (*Tilia europæa*)—viz., red-twigged (*T. europæa sanguinea*), and yellow-twigged (*T. europæa aurea*) must supersede the common kind. 60 feet. Limes are fine subjects for avenues and park scenery. The red-twigged variety is the best.

**ELM**.—Desirable alike for avenues and park scenery, and one of the very few trees that thrive amid the smoke of towns, adapting itself also to a variety of soils. English Elm (*Ulmus campestris*) does fairly in a high and exposed situation; Wych Elm (*U. montana*) has dense foliage and a fine tufted appearance. Of the English varieties the upright growth of the Exeter Elm (*U. campestris fastigiata*, syn. *stricta*), and the Purple-leaved (*U. campestris purpurea*) are very fine, and associated with the variegated Elm form a splendid group. All 80 feet, except the Purple-leaved and variegated, which are 40 feet.

**ASH**.—The tints of the Ash (*Fraxinus excelsior*) in autumn contrast favourably with the deeper tints of Oaks. The Ash is not in favour with planters, and less so with agriculturists. Nevertheless, it is one of the most valuable of timber trees, and from an ornamental point of view is not undesirable, though its late leafage and early fall of the foliage tell against it. 80 feet. *F. subcordata*, with finely variegated leaves, is effective. 30 to 40 feet. And the Walnut-leaved (*F. juglandifolia*) of North America is worthy a place. 40 feet. The Ashes do not thrive in high exposed situations, but require a good soil and a moist situation. *Ornus europæus*, or Flowering Ash, is a fine free-flowering tree, desirable for ornamental planting to a limited extent. 30 to 40 feet.

**BEECH**.—Noblest of landscape trees, succeeding in a bleak high exposure. It prospers near the coast, and on dry sandy or chalky soils, or moorland, water not being stagnant. The delicate tint of the tender leaves of the common Beech (*Fagus sylvatica*) light up the landscape in early summer, and afford a good contrast with the Purple-leaved Beech (*F. sylvatica purpurea*), the latter being particularly fine for scenic effect. There are varieties of both the common and Purple Beech with upright branches and twigs, and others of a more or less pendulous character. The latter form is much the best, being of a deeper purple in the leaves. Common Beech attains to a height of 70 feet, and the Purple to 40 to 60 feet. The Crested or Curled-leaved Beech (*F. sylvatica cristata*) is curious, being dwarf and dense in growth, 15 feet; Fern-leaved (*F. sylvatica asplenifolia*) grows but slowly, attaining to about 30 feet; and the Cut-leaved (*F. sylvatica incisa*) is pretty. 15 feet. These form an effective group.

**OAK** requires deep and good soil. The English Oak (*Quercus pedunculata*) is a noble tree for parks. 60 feet. It and the Turkey Oak (*Q. cerris*), 50 feet, in association with the Variegated Turkey (*Q. cerris variegata*), 30 feet, and Scarlet Oak (*Q. coccinea*), 50 feet, the leaves of which die off coppery scarlet, produce a fine effect. Marsh Oak (*Q. palustris*) does well on moist ground, having for an Oak a light, even elegant appearance. Its leaves in autumn pass through various tints, dying off orange-red. The Golden Oak (*Q. pedunculata concoloria*) has bold foliage of a golden hue, and is effective in contrast with the dark, glossy, green foliage of *Q. pannonica*.

**ACACIA**.—This is much neglected, for being of quick growth, having a very elegant appearance, and being a fine-flowering tree is much more desirable for avenues than denser-foliaged trees. Acacias succeed fairly in the environs of towns, and succeed in most soils. The light green of the foliage is maintained throughout the summer. Besson's Acacia (*Robinia Bessoniana*) is very noble and quick-growing; Decaisne's (*R. pseudo-acacia Decaisneana*) is also a vigorous grower with rose-coloured flowers; the common Acacia (*R. pseudo-acacia*) is not so much



seen as it deserves. *R. pyramidalis* grows upright, and is highly ornamental.

**BIRCH.**—An attractive tree, thriving well in wet ground, even bogs, and is particularly fine near water. The White Birch (*Betula alba*) associates well with Pines in wet moorland, and is fine everywhere. The Fern-leaved Weeping Birch (*B. alba incisa pendula*) is very ornamental.

**ALDERS** are suitable for skirting rivulets, doing well in wet swampy ground, and are appropriate for association with water. The common Alder (*Alnus glutinosa*), the Cut-leaved (*A. glutinosa laciniata*), and Hoary-leaved (*A. incana*) are the most desirable.

**POPLARS** are subjects of the valleys, preferring open moist soil. Though they do not survive long in towns, their rapid growth renders them desirable. I have seen the Lombardy Poplar thriving in a smoky atmosphere where the Black Italian (70 feet), Balsam (70 feet), and Ontario (70 feet) had succumbed. Lombardy (*Populus dilatata* or *fastigiata*), 70 feet, from its erect spire-like habit is valuable for forming a screen where spreading trees would be objectionable. The Silver-leaved (*P. alba nivea*), 40 feet, is particularly fine, its clear silvery-coloured foliage having a distinct effect.

**WILLOWS** do well on poor wet land, and grow rapidly; but except in their weeping form their beauty is not striking. In winter, however, the wood of some of them when seen in a mass is ornamental, particularly the scarlet, purple, and yellow-wooded. *Salix Solomoni* is a hardy form of the Babylonian Willow; it, Kilmarnock, and the American Weeping Willow are effective on islands, or otherwise associated with water.

**SPANISH CHESTNUT** (*Castanea vesca*) requires strong soil and a flat country, not succeeding in high ground unless sheltered. For parks it is a noble bold-foliaged tree. 50 feet.

**PLANE.**—Like the Spanish Chestnut Planes do not succeed in high exposed situations, but will thrive in most soils, climate being favourable. The Western Plane (*Platanus occidentalis*) is a fine tree of free growth, with ample pleasing green foliage, having a very ornamental appearance, and succeeds in towns better than any other tree. 70 feet. The Oriental Plane (*P. orientalis*) is not nearly so free in growth as the Western Plane, but is nevertheless good in any but exposed situations. 50 feet.

**WALNUT.**—Requires good soil. It does not succeed in high and exposed situations, and is not particularly desirable as a landscape tree. The Cut-leaved Walnut (*Juglans regia laciniata*) has very ornamental foliage. 20 feet.

I have thus noticed some of the most desirable of useful and ornamental trees which are suitable for parks and rural scenery generally, and for association with them are smaller trees mostly ornamental for their flowers or fruit. Some of the most desirable are Thorns, which succeed admirably in and around large towns. Some have very beautiful flowers filling the air with fragrance, and others have not only fine blossom but highly coloured berries (haws). The finest of all for flowers are Paul's Double Scarlet, Double Pink, and Double White respectively; *Crataegus oxyacantha coccinea plena*, *C. oxyacantha rosea plena*, and *C. oxyacantha plena*. *C. fructuflava* has yellow berries; *C. grandiflora*, large flowers like a *Mespilus*; *C. coccinea*, fine large fruit. *C. coccinea corallina* is even finer. *C. glandulosa purpurea* has reddish foliage. *C. cordata splendens* has very bright shining leaves. *C. Leeana* is a fine variety of the Tansy-leaved Thorn (*C. tanacetifolia*). The finest of the genus is probably *C. stricta*, which grows erect, and is therefore valuable as a screen in town gardens, and for decorative effect in churchyards and cemeteries. All 15 to 20 feet.

**SNOWY MESPIRUS** (*Amelanchier Botryapium*) in early spring is very effective from its abundant white flowers, but does not succeed in exposed situations. 15 feet.

**CHERRY.**—The common Cherry (*Cerasus avium*) is fine in spring from its many fair white blossoms; but the Double-blossomed (*C. avium multiplex*) with its large pure white blossoms is much superior. 15 to 20 feet. Few trees are more ornamental in spring than the Bird Cherry (*Cerasus Padus*). A tree of this with a round head 30 feet through its branches and 20 feet high is no despicable object. The Cornish Bird Cherry (*C. Padus rubra*), with the Aucuba-leaved variety (*C. Padus aucubæfolia*), are effective. They do well in most soils. 20 to 30 feet.

**ALMONDS** like a sandy or well-drained soil. They blossom freely, and are the first to gladden us in spring with their fine rosy flowers. The common Almond (*Amygdalus communis*) or fruit-bearing, and the double-flowered (*A. communis flore-pleno*) are good. 15 feet.

**LABURNUM.**—The Scotch Laburnum (*Cytisus alpinus*) is much the best, its long racemes of bright yellow flowers being very effective. 30 feet. Common (*Cytisus Laburnum*) is smaller in every way. The purple-flowered (*C. Laburnum purpureus*) from its colour, and *C. Laburnum autumnalis* by its season of flowering, are desirable. 20 feet. Common as Laburnums are, they deserve a place near every dwelling. The trees do well near smoky towns.

**PRUNUS.**—Mountain Ash (*Pyrus aucuparia*) succeeds in high and exposed situations; its elegant foliage and bunches of red berries being effective in the autumn. 30 feet. The White Beam (*P. Aria*) is no despicable object, but is surpassed by its variety *P. Aria corymbiflora*; and the wild Service Tree (*P. torminalis*) does well in hilly or mountain districts.

Apple and Pear trees do little good in smoky town gardens, but I have not seen anything finer in the way of blossom than those are, whilst the fruit of Crabs is very effective in the landscape in autumn. What finer in autumn than the highly coloured, crimson, small shining fruit of the Fairy Apple, or the larger fruit and as highly coloured of the Imperial Crab? both varieties of the common Crab (*Pyrus Malus*). The Siberian Crab (*P. prunifolia*) is truly a lovely object in spring with its pink blossoms, and highly ornamental in autumn when loaded with its small highly coloured fruit. The red-flowering Crab (*P. floribunda*) yields to no other in its season, which with the Chinese (*P. spectabilis*), vars. *flore-pleno*, *Kaido*, *Imperialis*, and *rosea flore-pleno* have quite a charming effect from the profusion of their beautiful blossoms. The Pears, especially the double-flowered (*Pyrus communis flore-pleno*), *Bollwylleriana*, and *præcox*, are fine in spring and ought to have a place in ornamental planting.

**JUDAS TREE** (*Cercis Siliquastrum*) is attractive by its purple flowers. There is also a white variety. I regret to add they do not succeed except in sheltered situations.

**COTONEASTER FRIGIDA** does well in a moderately sheltered situation on high ground, and its bright scarlet berries are very handsome in autumn. 20 feet.

**KOLREUTERIA PANICULATA** is very ornamental alike by its leaves, mode of growth, and long spikes of yellow flowers. 20 feet. Unfortunately it only succeeds in sheltered situations and well-drained soils.

**TULIP TREE** (*Liriodendron tulipifera*) is a large tree with dense Plane-like foliage, and yellow and red Magnolia-like flowers in June. It does not attain to large dimensions unless in favourably sheltered situations, where it occasionally attains to a height of 60 feet.

**MAGNOLIA ACUMINATA** has a fine effect from its candelabra-like habit, bold open foliage, and yellow and green flowers. It requires moderate shelter, and with that does well in high well-drained ground. I have seen a tree of this some 45 feet in height on the Welsh mountains. *M. glauca* is much more dwarf, and does well in wet ground of a peaty character, but requires shelter. 15 to 20 feet. Of *M. glauca* there is a white-flowered variety—viz., *M. glauca Thomsoniana*, the flowers being fragrant. It also needs a sheltered situation and peaty soil.

**SALISBURIA ADIANTIFOLIA** is very distinct in foliage and pleasing, but is unfortunately of slow growth, except in well-drained soils in sheltered situations. 20 feet.

**MULBERRY.**—This has a distinct appearance, but its period of leafage is short. The White Mulberry (*Morus alba*) is the freest grower. 30 feet. But the Black (*M. nigra*) is the most desirable. 20 feet.

**PRUNUS MYROBALANA** (the Cherry Plum) has large white flowers in early spring, having a very effective appearance. 20 feet. The double Sloe (*Prunus spinosa flore-pleno*) is a mass of white in early spring; quite charming. 10 feet.

I will close my list with the very distinct and elegant Stag's-horn Sumach (*Rhus typhina*), very ornamental from its erect dark-coloured flower heads and conspicuous foliage, especially in autumn, when the leaves before dropping change to a very beautiful purplish-red.—G. ABBEY.

## DIOSPYROS KAKI.

YOUR correspondent, "G. S.," asks some questions about our fruit of *Diospyros Kaki*. A friend who knew the *Diospyros* in Japan assured me that the fruit was excellent. I was therefore much disappointed at the unpalatableness of our specimens; I believe that there are many varieties in Japan. If our first cultivated Apple tasted as a dessert fruit had been Yorkshire Greening or Norfolk Bessing we should have

wondered at accounts of flavour which had, perhaps, come from the eaters of Cox's Orange or Ribston Pippin. The Kaki fruit I first tasted was quite ripe, and I feel satisfied at its best stage; one side was beginning to decay, but all the rest perfectly sound. I will with pleasure try my last fruit at its extreme point of ripeness, though I think this was done in the specimen above spoken of. We have another tree which has not yet fruited, apparently another variety.—GEORGE F. WILSON.

[There are more than fifty species of *Diospyros* known. We have tasted several in India, but all were bletted like the Medlar when fit for eating. One species is hardy, *D. virginiana*, called popularly in North America the Persimmon, and its fruit is not palatable until it has been frozen.—EDS.]

### ORCHIDS AT CHELSEA.

THE recent large importations have brought down the price of some Orchids very considerably, and I was told by the Messrs. Veitch that the demand for them was never so great as it has been this year. When people are purchasing imported Orchids they ought not to drive a hard bargain, for in thinking of them one is vividly reminded of the cry of the Newhaven fishwife trudging through the streets of "Auld Reekie," shouting "Its no fish yer buyin, its honest men's lives." Witness the long array of martyrs who have perished in their search for the rare and beautiful in nature, from David Douglas goaded to death by a wild bull, to Albert Bruchmüller brutally murdered by a convict in New Grenada.

The splendid *Odontoglossum cirrosum* is to be seen at Chelsea in thousands. It is not new to England, having been introduced in 1840 from Ecuador, where it was found at an elevation of 6000 feet above the sea; but, like many other fine plants, it was lost owing to ignorance of its treatment. It is best described as a major form of the rare and beautiful *O. niveum majus*. The spikes are large and branched, and I can testify to the free growth of the plants in a cool house. Another surprise to me was to see suspended from the roof in baskets and on blocks hundreds of the magnificent *Oncidium Rogersii*. The collector, who has had much experience, has no doubt of its being the real thing. Should it not prove true, it will doubtless be a new *Oncid* of great excellence.

Masdevallias now almost require a house to themselves, so numerous are the different species and varieties, some of them more curious than beautiful, but all are worthy of culture. Were I to choose three species only, I would take as the best *M. Harryana*. The best variety is a magnificent flower, dazzling glowing crimson in colour. Next, *M. Veitchiana*. The best variety has thick fleshy leaves and flowers, and the colours are most striking. Lastly, the pure white *M. Tovarensis*. By the time this appears in print Messrs. Veitch will have in flower perhaps the finest plant of this species in England.—J. DOUGLAS.

### AMERICAN BLACKBERRIES.

THE Lawton is perhaps the best of the American Blackberries; the fruit is delicious, having very small seeds in proportion to its size; and the cultivation of this fruit is so easy that no person need fail of a crop. The plants flourish in any strong moderately-rich soil with good under-drainage. The common, and with many the easiest, way is to plant in rows 6 feet apart, the plants being 3 feet apart in the rows, driving a stake 5 feet high to each plant or stool to which the young canes are tied. But having grown these Blackberries I can name a better plan: Procure sound oak posts and fix them in the ground, the height of them being just 4 feet from the surface of the soil, and have them well braced and firmly planted. Set one at each end of the rows of plants, and from one to the other of these posts strain a strong wire, supported at intervals of about 40 feet with stakes driven into the soil, to which the wire is to be pinned with small staples. These posts should not be set exactly in the line of the plants, but 18 inches or 2 feet on one side, so that the canes may be bent over to the wire; thus allowing the young canes of this season to come up separate from the bearing canes, which facilitates the picking. In the end this trellis is not more costly than staking, and is far neater and lasts as long as the plants, which will yield good crops of fruit for six or eight years. There are other sorts, such as the Kittatinny, Wilson's Early, Wance's Seedling, Western Triumph, &c., but the best, in my opinion, is the Lawton.

The way to establish a healthy stock is to layer the canes in

August or September as follows:—As soon as the tips grow nearly bare of leaves and present a dark purple colour peg them into the ground 3 or 4 inches at an angle of 45°. In a few weeks they will form fine matted roots, and can be transplanted after cutting off from the parent 4 or 6 inches above the root. If very strong plants are wanted, and quality or size more than quantity, check the new growth when 2 feet high, it will then throw out ten to a dozen side branches, and these being layered early form very large matted roots by the autumn. But if a large increase of plants is desired check the growth of all these side branches when they are about 2 feet in length; this will cause each branch to shoot out, and instead of having ten or a dozen to layer, fifty to one hundred will be produced around a good-sized bush. The plants from these will be much later, and besides do not grow such strong canes; but my experience has satisfied me that these smaller plants are the safest to plant, especially in large quantities.—H. S. J.

### WRIGHT'S SELF-ADJUSTING STEP LADDER.

At St. Louis the other day we examined different sizes of Wright's self-adjusting step ladder. Mr. Wright is a practical fruit-grower, noted in St. Louis and Missouri for his Wright's Mammoth Peach as well as for the step ladder, which is a result of his experience in the Peach orchard, and therefore worthy of special attention by the fruit-grower, although

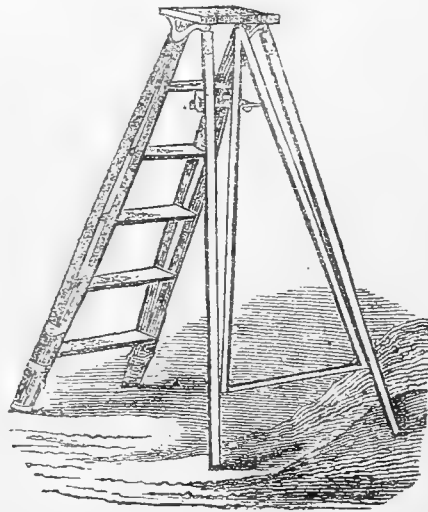


Fig. 69.—Wright's Self-adjusting Step Ladder.

equally useful for the ordinary household purposes of a step ladder.

The peculiarity of this ladder is that the bracing legs of it are each hung on a kind of universal joint instead of the ordinary hinge, and connected by a triangular brace also hung from the upper step by a similar joint, the result of which is that the braces adapt themselves to uneven ground and leave the step-ladder part in a firm upright position, provided that part only is on level ground. Provision is made for elevating either side of this also where the ground is unusually uneven.—(*Rural New Yorker*.)

### THE CULTURE OF THE POTATO.

I HAVE been watching the growth of this vegetable for some time past, and I do not think that we plant it early enough. The self-set Potato, as it is commonly called, usually produces more Potatoes than those we plant. For instance, in the past hot and dry season the Potatoes which were planted late in the spring were in the months of June and July quite at a stand still when they ought to have been making the best of their growth; and then at the latter end of September and the beginning of October, when they ought to have been ready for taking out of the ground and storing, we found them in the full vigour of growth, and were left in the ground for another month or six weeks, in order to make up a good crop, ending in too many cases only in a crop of disease. It is my opinion that if the Potato was planted in the month of January on

well-manured ground that we should have better crops, and that we should not be troubled nearly so much with the disease as at present. The sets should be planted 6 inches in depth. By planting thus early some may fear that the tops would be cut down by the frost in spring, but self-set Potatoes are seldom cut down with frost, and that is why I advocate early planting.

Potatoes are often spoiled in storing them away. If the tubers are thrown together when they are damp into a very large heap it is quite certain that they will heat, and the steam cannot escape through the thick covering of soil which is placed over the heap, and hence many of them rot. My opinion is that Potatoes should be stored dry and cool, and in such a manner that any steam can escape from them, and the bulk of them will then remain sound and good.—A YOUNG AMATEUR.

### MANURING AND PLANTING ROSES.

I THINK Mr. C. H. Kitching is right in his idea of manuring Roses; but my opinion is that leaving Roses on Briars in the ground five or six years is a mistake. Not everyone who grows Roses has the time to spare to take them up every year, but every two years they should be taken up and root-pruned; and Roses properly treated in this way will never fail to flourish. The first week in November is the best time for removing them; a good soaking of liquid manure twice a-week in hot weather is very beneficial.—E. BROOK, *Westbere, Canterbury.*

### MR. CHARLES VAN GEERT'S NURSERY AT CALMPHOUT.

BELGIAN nurseries have been frequently referred to, but these have mostly been the "manufactories" of plants more or less of a tender nature, and which are in general demand for indoor decoration. Such plants as Palms, Ferns, Aroids, Gloxinias, Camellias, Azaleas, &c., are increased and grown by hundreds of thousands in nearly all the nurseries of note in that small but thrifty kingdom. Most of the nurseries, therefore, are much the same in their general features, and vary only in extent, details, and a few specialities with which one or the other of them is identified. The nursery now to be noticed is, however, totally different from the establishments which are so common in Belgium, and it is also somewhat out of the beaten track of the ordinary wandering horticulturist. It is a nursery of hardy plants and trees, and especially of Coniferae. A pure air being therefore essential, the site was chosen some distance from the smoke of towns, and where the soil was also found favourable for this class of ornamental trees. The present being the period not only when evergreens and Conifers are seen in their best garb, but also the time for removing and planting them, Mr. Van Geert's collection may appropriately be noticed.

The proprietor of the Calmpthout Nurseries has a "home nursery" attached to his residence in the Rue de la Provence, Antwerp. It is here where tender plants are raised and grown in several glass structures, also where the seeds of Conifers are sown, and where the seedlings are tended and established. It is here, too, where the choicest of the rich collection of hardy trees with variegated foliage are increased, such as that valuable acquisition the Golden Poplar, *Populus canadensis aurea* Van Geerti, the finest of all golden-foliage hardy trees, of free and noble growth; and not golden in Belgium only, for this tree has proved in the Hammersmith nurseries of Messrs. J. & C. Lee all that it was represented by its raiser, as being as free in growth as the common Canadian Poplar, and with leaves not of a sickly hue, but of a warm and vigorous golden tint, the colour increasing in intensity the better the trees are nourished and the more they are exposed to the sun. Easy as this tree is of increase, the great demand for it has taxed to the utmost Mr. Van Geert's endeavours to establish a sufficient stock, and consequently the trees in the Antwerp nursery were all in a small state. This tree, which in all probability will in a few years lighten and brighten the park and forest scenery of many countries, is the result simply of attentive observation and the turning to account, as it were, a freak of Nature. Mr. Van Geert in passing through a much-frequented district had noticed a bright yellow branch growing on an ordinary Poplar tree, and observing that it grew as freely as the rest part of the tree, that it assumed its golden tint early in the summer and preserved it throughout the season, that this was not a freak peculiar to one season but was the same year after year, the tree or branch was secured for further experiment, and thus the tree which will add so

much to landscape scenery and its preserver's fame was obtained, increased, and distributed. Thousands of passers-by had noticed the "golden patch," but one only had turned the circumstance to account—the observant and fortunate Charles Van Geert.

From Antwerp to Calmpthout is about an hour's ride by rail. The station is contiguous to the "home nursery," and tickets are quickly procured. On the Belgian railways the fare is printed on every ticket, and the second-class rates are somewhat less than the ordinary third-class charges in England. The speed of the trains is not so great as in England, but the carriages are equally well fitted, and travelling if not fast is comfortable. There is also a striking difference in the general demeanour of travellers in the two countries. The Belgians are very much "Frenchified" both in language, and deportment—politeness. Each appears anxious to be on the pleasantest of terms with his neighbour; and "bows and smiles," which appear common to all, are freely interchanged. Conversation is conducted—I had almost said "fiercely," but I must politely modify the term into animated—in proportion as the speakers have left the old Dutch or Flemish school and are merging from "mynheers" to "me'scos." It did not appear to be "quite the thing" to "skulk behind a newspaper," or to trample on as many corns as possible in rushing in or out of a compartment. Politeness is cheap, but "John Bull" has not time to raise his hat sixty times a minute; but as he is generally regarded as having a pocketful of francs his brusqueness is excused, and he receives the best of attention in Belgium. That is, of course, when as a stranger he is dealing with strangers; but as friend meeting friend none than the Belgians can be more kind, more hospitable.

On leaving Antwerp the train appears to be kept as long as possible within the fortifications—that is, the course of the line is somewhat tortuous, and it is not until after traversing some two miles that we penetrate the frowning earthworks by a tunnel bearing the national arms, and emerge in the open country—open but not unprotected, for its depression and flatness is such that the waters of the Scheldt can be let loose and the district be submerged, so that an invading army would have to literally pass through sea and fire before entering the precincts of the "strongest fortified city in Europe." The district around Antwerp is proverbial for the fertility of its soil, and the inhabitants are regarded as being especially thrifty and industrious. Their thrift I will not question, but their industry has probably been overrated. Men and women alike work in the fields and gardens, the women seeming to enjoy it the most, but the Belgians do not "go in" with the zest and vigour of honest English labourers. I say "honest" because all are not entitled to that honourable designation, for in too many instances honesty has degenerated into shiftiness, and whenever that is the case the man will lose more in the end than will the master.

The land nearest to the city is devoted to the cultivation of vegetables, but I much doubt if the market gardens of Antwerp are so productive as the market gardens of London. The evidence afforded by the steamers is in favour of the London gardens, for, besides supplying the enormous demands of the metropolis, large shipments of vegetables are sent over to Antwerp, especially, I believe, of Rhubarb and Celery, which crops would thrive luxuriously in the cool, rich, alluvial soil of Belgium. Further from the city the land is devoted more to agriculture. The plots of the respective holders appear to be small, and the majority of them pay their rent in kind, not in money. The landlord finds the land, the tenant finding seed, labour, and manure, the crops being equally divided. In other parts of the kingdom the peasants are small proprietors, but a poverty-stricken look pervades many of the miniature plots and their owners. These humble "statemen" may be as contented as English labourers, but they certainly do not look so well, and do not enjoy such substantial sustenance and comfortable homes.

Still further in the country we come to higher and more sterile soil, a sort of grey sand, in which scarcely anything will thrive except Scotch Firs (*Pinus sylvestris*). Plantations of these Pines are established, not by planting the trees but by sowing their seeds. The growth of trees which have not been removed is much cleaner and quicker than that of transplanted trees. The ground is levelled and set out in beds of about 10 yards wide. On these beds the Fir seeds are sown broadcast and thinly. From between the beds the soil is dug and thrown over the seeds, the ground when finished being formed into a series of ridges and trenches. In this way the trees

grow freely, which by transplanting would assume a stunted appearance and be of little value. They are thinned-out as they advance in growth, and are devoted to many useful purposes according to their size, and the plantations become profitable. Beyond what may be termed this sterile belt is Calmthout, and we alight at a small country railway station close to the nursery. Just within the gates is a large white house (all the Belgian houses worthy of the name are white, a few of the peasants' dwellings being bright blue, green, orange, or some other gay colour indicative of the proprietor's rank, political creed, or fancy), and on the white house *Ampelopsis Veitchii* is very effective—a climbing plant worthy of carrying the honourable name of the great nursery firm into all lands.

The Calmthout Nursery is not large, perhaps ten acres, but its owner has so arranged it as to be ornamental as well as useful. The end next the public road is bounded by a fence of a somewhat novel kind. The lower portion of it, about 4 feet, is an Ivy hedge, the framework of the Ivy being ordinary wire netting supported by oak posts. It is thus an evergreen fence taking up little room, and is neat and durable. But the posts supporting the fence are carried up to a height of 9 or 10 feet; they are somewhat less than that distance apart, and cross pieces are placed from post to post, forming a series of arches. These posts and arches are covered with Ivy and with Virginian Creepers, and the nursery is viewed through these open frames of greenery. Parallel with this fence and at a distance of 5 or 6 yards is another fence, and along each fence have been planted tall trees of Weeping Beech. From post to post across this space wires have been stretched, forming a series of diamonds, and to these wires the branches were trained when in a young state. That was some years ago, and the branches of the trees now need no support; they grow in a perfectly horizontal position, and form a covering to a long and spacious living corridor which is at once novel in appearance, and is cool and grateful for promenade in the sultry days of summer.

This corridor forms the eastern boundary of the nursery, and from it are openings into the different divisions of the ground. These divisions are defined by very narrow and perfect hedges of Conifers which divide the ground into sections, the spaces between the hedges being about 12 yards wide, a narrow path leading down the centre of each section. At intervals of 50 yards or so are also cross hedges rising in altitude as they approach the path, forming a series of arches for passing under. In the centre of the nursery the arrangement is different. Here the space is wider than the side compartments, and it is mainly occupied by 250 squares formed with hedges 1 foot wide and 2 feet high of *Thuja occidentalis*, the front side of each square, however, being open to the central walk. These hedges were planted fifteen years ago, 10,000 *Thujas* having been employed in their formation. In the centre of each space was planted at the same time a choice Conifer, with the intention that it should remain permanently to form a perfect specimen. This idea has not been quite carried out. So urgent had been the desire for some of these that they were removed; a few others failed to flourish, while several of the specimens remained in their little compartments. At the back of each of these two rows of squares are rows of pyramid Purple Beeches and variegated Maples, alternately planted at a few yards apart. These are stately towering specimens, and have been skilfully trained, pruned and tended. Many of them are 18 feet in height and quite straight, the diameter of their branches near the ground not much exceeding 2 feet, each tree tapering upwards to a point; they are in fact perfect and regularly formed cones, and the deep colour of the Beeches with the alternating lightness of the Maples produce an effect that can be better imagined than described. The view down this, the main and central compartment of the nursery, is strikingly novel, and is perhaps in its way unequalled.

The principal divisional hedges referred are 7 to 8 feet high, and are kept in perfect order. There are, for instance, hedges of Spruce not more than a foot wide, Yew, Corsican Pines, Weymouth Pine, very distinct; *Abies canadensis*, Virginian Juniper, very close and elegant; *Arbor Vitæ*, and another extremely pleasing hedge of *Cupressus thyoides*, syn. *Chamaecyparis sphaeroidea*. Besides being ornamental these hedges are important as affording valuable shelter to the young stock of Conifers—the district being naturally bleak and exposed—and by the assistance which they render in this respect to the thousands of valuable plants far more than compensate for the little strips of ground which the hedges occupy. The narrow divisions are in other respects found to be advantageous

in enabling the stock to be seen to the best advantage, and, the divisions being numbered, the stock of any given Conifer can be found by anyone when directions are given as to the number of the compartment, and a saving of time is thus effected. It is very enjoyable to walk up and down these longitudinal divisions where collections of the various Conifers can be seen so conveniently, and the stock of these is not only extensive and varied, but is also choice. Throughout a long and successful career as a horticulturist Mr. Van Geert has made hardy ornamental trees his special study, and his business connections extend to all the nations of Europe.

A detailed enumeration of all that is noteworthy in this nursery is out of the question, yet the stock must not be passed entirely unnoticed. *Abies Menziesii* attracted attention. For this distinct and elegant Conifer Mr. Van Geert was awarded the gold medal at the Cologne Exhibition in the class for new and useful timber trees. It is hardy, elegant, and a most rapid grower. Its leaves are solitary, thickly placed, narrow-pointed, and incurved. They are silvery above and bright green below. This tree was found in California and the island of Sitcha, where it grows to the height of 80 to 100 feet, and its timber is very valuable. In anticipation of a demand arising for this promising Fir large stocks are being raised at home and abroad, and young trees are now procurable at moderate prices. Mr. Van Geert's stock of this Conifer was very vigorous. Noticeable also was a variegated form of *Taxus canadensis* which originated at this nursery; it is very attractive, and forms a handsome dwarf close pyramid. Another new and distinct Yew was *Taxus pendula aurea* Van Geerti, a drooping Golden Yew, which was being "worked" largely in anticipation of a brisk demand for "golden umbrellas." All the choicest of the *Retinosporas* were here in considerable numbers; also *Cryptomerias*, *Biotas*, *Thujas*, &c. *Pseudo-larix Kämpferi* is largely grown to meet the increasing demand; and very distinct was *Buxus Fortunei longifolia*, its foliage being of a distinct lively green, and distinct from all others of the family. Here is also the original plant of the Japanese *Taxus* (*T. cuspidata*) brought by Van Siebold, which is now an attractive specimen; and a striking example of *T. Korsiana* in the form of an inverted pyramid is worthy of mention. This elegant and hardy Conifer has leaves much longer than those of the Irish Yew; it is rather a slow grower, but it is very ornamental and worthy of a place in most gardens. *Abies nigra rubra pumila* formed a handsome globe of 6 feet in diameter, dense, and of perfect symmetry. Of *Abies orientalis* there was a noteworthy specimen, and also many others which must be passed over.

The collection of variegated and drooping deciduous trees is varied and extensive. Of striking appearance near the Weeping Purple Hazel was *Caragana pendula*, a Leguminose tree, and allied to the *Laburnum*. This is probably a drooping form of *Halimodendron argentea*, the Salt Tree. It was extremely effective, its leaves being of creamy whiteness, and its branches gracefully falling. A new hardy red Maple, *Acer Schwedleri*, had leaves as large as those of a Vine, very distinct; and *Acer polymorphum* was being prepared on its own roots, on which it endures the winter better than when grafted. In this nursery is the residue of the stock of standard Mistletoe trees which was referred to in this Journal some months ago. Only a few of these novel trees are left. Berries had been placed on Thorn stocks, and perfect round-headed Mistletoe trees were formed; a few sprays of the Thorn had been allowed to grow amongst the Mistletoe to encourage the growth of the latter. The Mistletoe heads were a foot to 18 inches in diameter, and had been laden with berries—the Thorn stocks being 4 feet high. As Christmas ornaments nothing than these remarkable miniature trees could be more effective, and the plan of raising similar "toys" is very worthy of being tried in this country.

Mr. Van Geert is adding to his nursery at Calmthout, and has recently planted a large piece of ground principally with shrubs and trees of drooping habit and having variegated foliage. The boundary of this portion next to the public road is fringed with a festoon of Clematises, and a corridor is being formed similar to the one above noticed. This second corridor is mentioned for the purpose of noticing the peculiar value of *Carpinus horizontalis* as a "roof" tree. This Hornbeam is remarkable for the horizontal growth of its branches, and only the slightest possible training is required to form a flat dense roof of foliage. This tree is a quick grower and hardy. Another fact is worthy of being recorded. In a pool in the nursery is growing the blue-flowered stove aquatic plant—



*Pontederia cordata*. It has been there for some years, and although it is killed down to the surface of the water every winter, it has never failed to grow again in the spring, and much more vigorously than it is usually seen in English stoves. This plant having proved thus hardy in Belgium ought also to be hardy in England.

An account of this interesting nursery would be incomplete without an allusion to Mr. Van Geert's mode of manufacturing manure and applying it to the soil. The manure manufactory is of a very homely character, and the process is extremely simple, yet very effectual. There is no digging of farmyard manure into the ground in the ordinary manner; first, because manure of that character is unsuited to this class of plants and trees; and secondly, some of it would be placed in the ground where not wanted. The plan adopted is first to obtain a supply of what is suited to the soil and crops, and then to apply it exactly where wanted and nowhere else. The manure, then, must have as its base vegetable matter, yet must be rich—that is, a minimum amount of the material must contain a maximum quantity of food. The manure is prepared somewhat as follows:—A shed is erected which contains bags of chemical manures, and beneath the shed is a tank or pond, in this the “artificial” are mixed at a tolerable strength. Into this liquid decayed and decaying vegetable matter of all kinds is placed and left for saturation. After remaining for a time it is taken out and placed in a heap, and fresh refuse is placed in the tank. Leaves, weeds, and rubbish have a soaking in this rich liquid. The saturated mass is subsequently turned over frequently, and in the course of time resembles leaf soil, and when in this state and sufficiently dry it is ready for use—an enriched, light, friable, vegetable compost. It is used as follows: The soil is light and sandy, and is not regularly dug over, but rows of holes are made of a sufficient size and depth for the different sized shrubs, &c. In these holes is placed a little of the compost—say a lining of an inch or two in each hole, and the planting is completed. It is to be remembered that this is a nursery, and the trees are subject to removal at any time, and masses of fibrous roots “close at home” are of the greatest importance, ensuring the safe and speedy re-establishment of the shrubs, &c. This compost and mode of applying it causes the emission of these masses of spongioles with the greatest certainty. I saw many Conifers taken up, hundreds being in the course of removal, and I never before saw such satisfactory roots. Shrubs so perfectly furnished with innumerable feeders could not fail to flourish if ordinary attention were bestowed in removal and planting.

The principle of applying the manure is a sound one. If the roots cannot find food near they will travel in search of it, and become long, straight, and comparatively destitute of fibres; but if nourishment of the right kind is provided numerous fibres are formed to appropriate it, and which remain in the feeding ground to the advantage of the subjects and their owner. It is so with plants of all kinds, from the Vine to the Cabbage, from the “Cedar of Lebanon to the Hyssop growing on the wall.” To his care in preparing this compost and applying it Mr. Van Geert attributes much of his success, for shrubs and Conifers so prepared have proved what are known as “certain growers,” and have established the reputation of the nursery. It is worthy of mention, and may in a modified form be advantageously adopted in the removal of trees and shrubs in private gardens, a little fresh generous compost to which is a great incentive to the emission of fresh roots. I apprehend it is in some such manner as above shadowed that the Belgian leaf soil is prepared in which Camellias, Azaleas, &c., root so freely and grow so luxuriantly. Certain it is that more attention is given to the preparation of light stimulating vegetable soil in Belgium than in England.

Mr. Van Geert's home nursery was described in vol. xxiii., page 429, and is much in the same state now as then; so is its owner—hale, courteous and hospitable, an excellent English scholar, and esteemed for his probity at home and abroad. He is ably assisted in his business by his son, Mr. Charles Van Geert, jun., who is a diligent and devoted horticulturist.—J. W.

## ASPECTS OF NATURE—NOVEMBER.

“Now the leaf  
Incessant rustles from the mournful grove;  
Oft startling such as, studious, walk below,  
And slowly circles through the waving air.”

THE above description is true of the first days of November, when there is, as it were, a stillness and repose about nature

which might almost cheat us into the belief that a long season of soothing rest was at hand; but sudden changes are frequent during November, and a day of pleasant sunshine is often followed by wet or frosty nights; or sudden tempests rise, till

“O'er the sky the leafy deluge streams,  
Till, choked and matted with the dreary shower,  
The forest-walks at every rising gale  
Roll wide the wither'd waste and whistle bleak.”

Thus the pale descending year has many aspects. Soft balmy days, seasons of high winds, driving rains, and frosty mornings alternate in so capricious a manner that it were impossible to assign characteristic weather to the variable month; nor lately has its customary description of “gloomy” been entirely deserved, for bursts of spring-like sunshine have lit up the landscape, and brought into conspicuous notice each plant and flower that still linger to deck the brow of the dying year.

On the common the Furze stands out in bold dark green masses, and under its sheltering cover smaller plants nestle and bring forth a few late blossoms. One of the most conspicuous features of the landscape at this season is the number of spiders' webs that are hung on almost every branch and leaf. The gossamer webs are woven between the pendant boughs of the Bramble and over the spine-covered Gorse; they twinkle in the early light with myriads of dewdrops left by the misty night, and seem to be fairy curtains hung on every bough.

“The lengthened night elapsed, the morning shines  
Serene, in all her dewy beauty bright,  
Unfolding fair the last autumnal day.  
And now the mounting sun dispels the fog;  
The rigid hoar frost melts before his beam;  
And, hung on every spray, on every blade  
Of grass, the myriad dewdrops twinkle round.”

When the great November wind has passed over the country and stripped the trees of all their foliage, and left them standing like so many gaunt sentinels watching over the wintry nakedness, what numbers of places are exposed to view which in summer time were totally hidden beneath an embowering screen of dense foliage—the winding river, the distant hill, the village church and isolated cottage, which a few short weeks ago were quite shut out from view. On the leafless hedges the birds congregate in great numbers to regale themselves with food from the bounteous store of berries which now are seen on Thorn, Privet, wild Rose, and Holly. The eddying brook bears on its swiftly flowing current many a tiny bark in the form of some withered leaf which the rude wind has blown upon its breast; and on its banks the tall Sedges and Reeds keep up a monotonous moan, played upon by the wintry wind.

As the month advances the sunny days become fewer, and rain falls continuously for some time.

“In the stormy east wind straining  
The pale yellow woods are waning;  
The broad stream in its banks complaining,  
Heavily the low sky raining.”

And the season well merits the epithet of dreary; yet the poet finds something to call him forth to the abiding places of Nature even at this dull season.

“In pensive guise  
Oft let me wander o'er the russet mead,  
And through the saddened grove where scarce is heard  
One dying strain to cheer the woodman's toil.  
Haply some widowed songster pours his plaint  
Far, in faint warblings, through the tawny copse;  
While congregated thrushes, linnets, larks,  
And each wild throat, whose artless strains so late  
Swelled all the music of the swarming shades,  
Robbed of their tuneful souls, now shivering sit  
On the dead tree, a dull despondent flock;  
With not a brightness waving o'er their plumes,  
And nought save chattering discord in their note.”

—T. S. J.

## FERN-LEAVED PARSLEY.

No crisped, crested, or finely divided Fern can vie with this Parsley in the density of its crests and curls. So finely divided are its parts, that this Parsley is comparable only with the finest of our wood mosses. A plant of this Parsley in a 6 or 7-inch pot would be admissible as a table plant, and befitting a prominent place in an arrangement of ornamental-foliage plants; whilst for association with ornamental foliage and flowers in a cut state I know of no more suitable groundwork than that formed of its green moss-like leaves. Its colour—a pleasing light green—renders it much superior as a garnishing plant to the ordinary varieties of curled Parsley, and its

quality is such as to befit it for every culinary purpose; for it should always be borne in mind that Parsley, unlike some other garnishing plants, must not only be good to look at, but must possess culinary properties. I had doubts of the free growth of this delicate-looking Parsley, but these have disappeared, for a row of it 24 yards long is as free in growth as the 300 yards length of the ordinary kind.

It is often difficult to provide a full supply of Parsley during the winter and spring months. This may be in a great extent effected by sowing an extended breadth. Nothing weakens a plant so much as close cropping—continually picking the growths as they appear.—A.

## FLOWER SHOWS AND THE PUBLIC.

SOME people, happily only a few, would have it believed that public interest in flower shows is generally decreasing; but such opinion is founded on some local and temporary failure, caused by official mismanagement, and not unfrequently from pandering to class prejudices instead of studying the general welfare of the society. One cause of the occasional apparent decrease of interest taken in old horticultural societies in towns is the extension of exhibitions to small country places. Taking the counties of Durham and Northumberland as an example of the changes during a few years, I believe over sixty exhibitions are there held annually, whilst up to about 1835 there was only one—viz., at Newcastle, with branch meetings in Morpeth, Berwick, Alnwick, Darlington, Hexham, and elsewhere. The unbeliever in the increased taste for horticulture should take a survey in the suburbs of our towns, where, even under great atmospheric difficulties, he will find a host of gardeners labouring hard and successfully.

I will turn from generalities to the subject at present most interesting to myself—viz., the Newcastle-on-Tyne Botanical and Horticultural Society, where I share the office of Honorary Secretary, which you know confers the privilege of pleasing nobody, but I hope these notes will meet a better fate. The Newcastle meetings have been held annually, once or oftener, since the year 1824. Of course their ups and downs during a lifetime of fifty-two years have not been few, but such being of little interest to your readers generally I will refer only to what has taken place this autumn. This Society seemed for some years to be decaying, till this season it became almost a question whether it were better to allow it to die a natural death. The general remark was, "It must go; Newcastle has no taste for flowers, and will not support such a society;" but two members of the Committee differing from this opinion were in October of this year appointed Honorary Secretaries to re-organise the management, since when (only six weeks ago) the income from subscriptions has risen from nominally £190 to £730, contributed by over 1650 annual subscribers, in addition to offers of special prizes (for the spring show on the 21st and 22nd of next March) from nurserymen, &c., residing in every part of England, also from many continental growers. From the manner in which our efforts have been received by the public I feel sure that a much greater accession of income is to be expected, so that the Newcastle Society has prospects of being worthy of a town and neighbourhood containing over half a million inhabitants. This success, especially in so short a time, clearly justifies my previous assertion, that public interest in horticultural exhibitions is not dead, but that when indifferently supported the cause is generally to be found in the mismanagement of the shows, and not in the apathy of the public.—W. J. TAYLOR, *Rye Hill*.

## THE GREAT BERKSHIRE ROOT AND VEGETABLE SHOW.

MESSERS. SUTTON have so increased their building and made it so thoroughly adaptable for their purpose, that even those who have wondered at the Exhibition in past years are fain to confess that this is immeasurably beyond those that have gone before, and those who have not seen it may form some notion of the extent from a few facts. The total number of entries were 1300 as compared with 870 last year. The main part of the Show was held in a large room, 195 feet long by 60 broad, where two thousand roots were shown from all parts of the kingdom. Some of the mammoth Red Mangolds were 3 feet in length, and others weighed upwards of 60 lbs., one entry of twelve roots weighing 430 lbs. The value of the Champion Swede may be gathered from the fact that for nineteen years it has won the two cups, value twenty guineas each, given by Her Majesty the Queen for the best roots grown in the counties of Berks and Bucks, besides

other valuable prizes. In rooms opening upon the large one were placed the White, Greystone, Purple-top Mammoth, Yellow-flesh Turnip, some most beautiful samples coming from the far-off "Kingdom of Fife," probably the handsomest roots in the Show. Of Potatoes a most admirable collection was staged, large in quantity, and for the year most excellent in quality. It was easy to see from the specimens of Sutton's Red-skin Flourball why complaints are sometimes made, for some which I have seen in other places were no more like those exhibited here than a Dutch cheese is like a Wiltshire. These were round, symmetrical, and weighty, whereas in other cases I have seen them mis-shapen, light, and deep-eyed. Sutton's Magnum Bonum has proved itself a most wonderful cropper; one exhibitor, Major Troyte, showing 27 lbs. grown from 1 lb. of seed, while Hundred-fold Fluke has again proved itself most thoroughly disease-resisting. Mr. Fenn exhibited a small but handsome collection of his seedlings, many of which seemed very promising, and were set up with that extreme regard to neatness and precision with which he always exhibits his productions.

The collections of vegetables exhibited by Mr. Walter, M.P., of Bearwood, Mr. Southby, and others were extremely creditable, the first prize going to Mr. Walter, and containing fine samples of Sutton's Snowball Turnip, Sulham's Prize Celery, Sutton's Golden Globe Savoy, Scrymger's Giant Brussels Sprouts, Veitch's Autumn Giant Cauliflower, Sutton's Beet, Telegraph Cucumber, Trophy Tomato, &c. The classes for Onions, Carrots, and Parsnips were also remarkably well filled, and no one seeing them would have considered that the season had been an unfavourable one, so symmetrical and clean were they. Altogether I think the Messrs. Sutton must be thoroughly satisfied with the result of their exertions, and with the confidence reposed in them by their customers.—LE ROI CAROTE.

## GARIBALDI STRAWBERRY.

It will still be fresh in the minds of some readers of this Journal of a statement I made some years since, that Garibaldi and Viscomtesse Hericart de Thury were identical. This was immediately contradicted by the raiser of Garibaldi, and subsequently I apologised for my rash statement, explaining that a local nurseryman had led me to believe that the two names were synonymous. I fear that corruption of names is common amongst Strawberries. For example: An old variety of Strawberry was recently changed to Dumbarton Castle; another old Strawberry known as Brown's Wonder is being sold at 20s. per 100 under the name of Balm's Seedling. Again, a large quantity of Admiral Dundas Strawberry has been supplied for President, the vendor declaring they were the same; but at the same time he had not plants of President. Comment on such practices would be useless further than saying it is a pity that anyone should be allowed to continue the dishonesty.

I have devoted much time to Strawberries, comparing varieties, &c., and raising seedlings, therefore I do not write without some knowledge on the subject when I state that Garibaldi is as distinct from Viscomtesse Hericart de Thury as the Elton Pine is from President. Even a person with his eyes shut may tell the difference, as the flavour of Garibaldi approaches to that of Keen's Seedling, which cannot be said of the Viscomtesse. Garibaldi has the property of bearing more fruit (when other trusses are in bloom) than any other Strawberry in cultivation.—W. THOMSON.

## EARLY WRITERS ON ENGLISH GARDENING.

No. 22.

SIR WILLIAM TEMPLE.

SIR WILLIAM TEMPLE was the son of Sir John Temple, and was born in 1628 at Blackfriars, London. He commenced his education under his maternal uncle, the learned Dr. Hammond, continued his studies at Bishop Stortford School, and concluded them under Dr. Cudworth at Emmanuel College, Cambridge. From the University he proceeded abroad, and at the Restoration was chosen a member of the Irish Parliament. In 1665 he went on a secret mission to the Sovereign Bishop of Munster, in Westphalia; was employed afterwards in forming the triple alliance between Sweden, Holland, and this country, and became resident minister at the Hague, in which capacity he promoted the union between the Prince of Orange and Princess Mary. In 1679 he became Secretary of State, but in the following year retired from office to his country seat, Sheen in Surrey, where he was repeatedly visited by his Sovereigns, Charles II., James II., and William III. He died in 1699 on the 27th of January.

His works have been published in two vols. folio, and four

vols. 8vo. In the first volume of them is contained his essay entitled "The Garden of Epicurus; or of Gardening in the Year 1685." This essay is devoted chiefly to inculcate that taste for formal design in gardening which was the prevailing one of his time. When we compare it with the plan given by Lord Bacon in a preceding age, for a similar construction, we find but this difference, that if both plans were reduced to practice, Sir William's would be rather the most mathematical and undeviatingly formal. Sir William Temple's *beau idéal* of a garden is that of a flat or gently sloping plot of an oblong shape stretching away from the front of the house, with the descent to it from a terrace running the whole length of the house, by means of a flight of steps. Such a garden, he says, existed at Moor Park in Hertfordshire, formed by the celebrated Lucy, Countess of Bedford, one of the chief wits of her time. It was on the slope of a hill, with two terraces rising one over the other, and united by a magnificent flight



Fig. 70.—Sir William Temple.

of steps. A parterre, wilderness, highly ornamental fountains, statues, alcoves, and cloisters, were its prominent parts and ornaments.

When he descends to more practical speculations he is seldom in error, among which we may specify his observations upon planting Peaches in the north of Britain, which experience has demonstrated to be correct. Sir William improved his knowledge of gardening during his stay at the Hague. He introduced several new fruits, especially of Grapes. His name still attaches to a variety of the Nectarine, and everyone knows the Moor Park Apricot. He had a garden at his seat at Sheen in Surrey, to the good cultivation of which Evelyn bears this testimony—"The most remarkable things are his orangery and garden, where the wall-fruit trees are exquisitely nailed and trained." Nothing can demonstrate more fully the delight Sir William took in gardening than this direction in his will, that his heart should be buried beneath the sun dial of his garden at Moor Park, near Farnham in Surrey, affording another instance of the ruling passion unweakened even in death. Nor was this an unphilosophical clinging to that which it was impossible to retain, but rather a grateful feeling common to our nature. In his garden Sir William Temple had spent the calmest hours of a well-spent life, and where his heart had been most peaceful he wished its dust to mingle, and thus at the same time offering his last testimony to the sentiment that in a garden

"Repose is secured and life unnoted slides away."

Temple's love of gardening peeps out in all his letters. Writing in 1688, Evelyn says he went to see Sir William's orangery and gardens at Sheen, and that he observed the trees

were "most exquisitely nailed and trained." This excellence of practice we attribute to his gardener, for though he notes with approbation Epicurus living in his garden, yet it is with the addition that such a life promotes "tranquillity of mind and indolence of body."

## ALFRETON HALL.

THE RESIDENCE OF C. R. PALMER MOREWOOD, Esq.

DERBYSHIRE is noted for its hills and dales—in fact, there are few counties in England which present such an irregular surface. The northern and southern parts of the county are in striking contrast with each other. The southern is not particularly remarkable for its undulating scenery, for south of Derby we meet with long tracts of tableland, while the northern part of the county is distinguished in an eminent degree by its long and continued succession of bold hills, romantic dales, and beautiful valleys. Stretching northwards from Alfreton Park the landscape rises before the vision in rugged and majestic grandeur. In this district it begins to gently rise into hills, which in their progress to the north swell gradually into mountains. These extend in one great chain, usually termed "The Backbone of England," to the southern extremity of Scotland. They first divide Yorkshire and Lancashire, then entering Westmoreland they spread over the whole face of that county and a part of Cumberland and Northumberland; after this they contract again in a ridge or chain, and form the limits between Cumberland and Northumberland; continuing their direction northward they enter Scotland. The south and east parts of Derbyshire are pleasant and fertile, producing most kinds of grain, particularly Barley. The north-west part, so well known by the name of "The Peak," is a hilly tract abundantly rich in minerals, and the intermediate valleys are clothed with grass. The mineral productions of Derbyshire embrace nearly every species of subterranean wealth, but coal, lead, iron, and marble are those which chiefly engage the industry and enterprise of the inhabitants. Ironstone is found in the coal stratum, except at Chinley Hills. The ironstone beds near Alfreton and Chesterfield are the most valuable. The celebrated Alfreton or Butterly ironworks are very extensive; the massive castings executed here have rendered the ironworks of Derbyshire universally celebrated.

The town of Alfreton is pleasantly situated on the brow of a hill. On the western side of the town there is a beautiful and well-wooded park, which has been the seat of the Morewood family for more than a century. The site of the mansion is well chosen, being on a gentle eminence, which is seen to great advantage from the Derby road. It is in the Grecian style of architecture, and presents a noble and imposing appearance. We enter the grounds by a comfortable lodge just on the outskirts of the town, snugly ensconced amid many-tinted trees. Passing through an avenue of fine old Beeches we reach a large open space of lawn on the north front of the mansion. Many handsome deciduous and evergreen trees are dotted in different positions on the grass. In one place we pause to admire the gigantic proportions of a Purple Beech, then the symmetrical outline of a variegated Holly, of which there are many fine specimens; next a noble Sycamore, fine Cedars of Lebanon, and towering Oaks and Elms. The park is separated from the pleasure grounds by a judiciously arranged sunk fence, which completely conceals the point of junction. Here we obtain some fine views of the Derbyshire hills. To the right is the scattered village of Shirland, and in the circle of the horizon are the hills of Ashover, Ogston Hall, Crich, and Crich Cliff. The latter place is said to be the highest hill in the county with the exception of the High Peak. On its summit there is an observatory called Crich Stand, which was erected in 1788, and rebuilt of stone in 1851 by the late Francis Hart, Esq. It is 955 feet above the sea level, and from the top the eye is gratified by wandering over several counties and into the Principality.

We noticed in passing along the various walks that Mr. B. Marks, the gardener, devotes special care to the filling and arranging of the plants in the various vases. These were broad and shallow, fringed round the margin with plants of drooping habit, while those of more upright growth occupied the centre. The flower garden is on the east side of the mansion, and was laid out in geometric style. All the beds were filled to overflowing, and presented a glorious floral blaze. The single plants of *Ricinus elegantissimus* in the round beds had a striking effect, and took away the sameness. Subjoined is a plan of the beds and the style of planting. This flower

garden is bounded on the north side by a range of glass houses, consisting of vinery, conservatory, and fernery; on the east and west sides by clumps of evergreens and other tall trees, and the south side is open to the landscape. From the lower

side of the flower garden there is a path which communicates with the carriage drive, flanked with standard Roses and backed-up with fine clumps of Rhododendrons, while to the left is a handsome miniature lake.

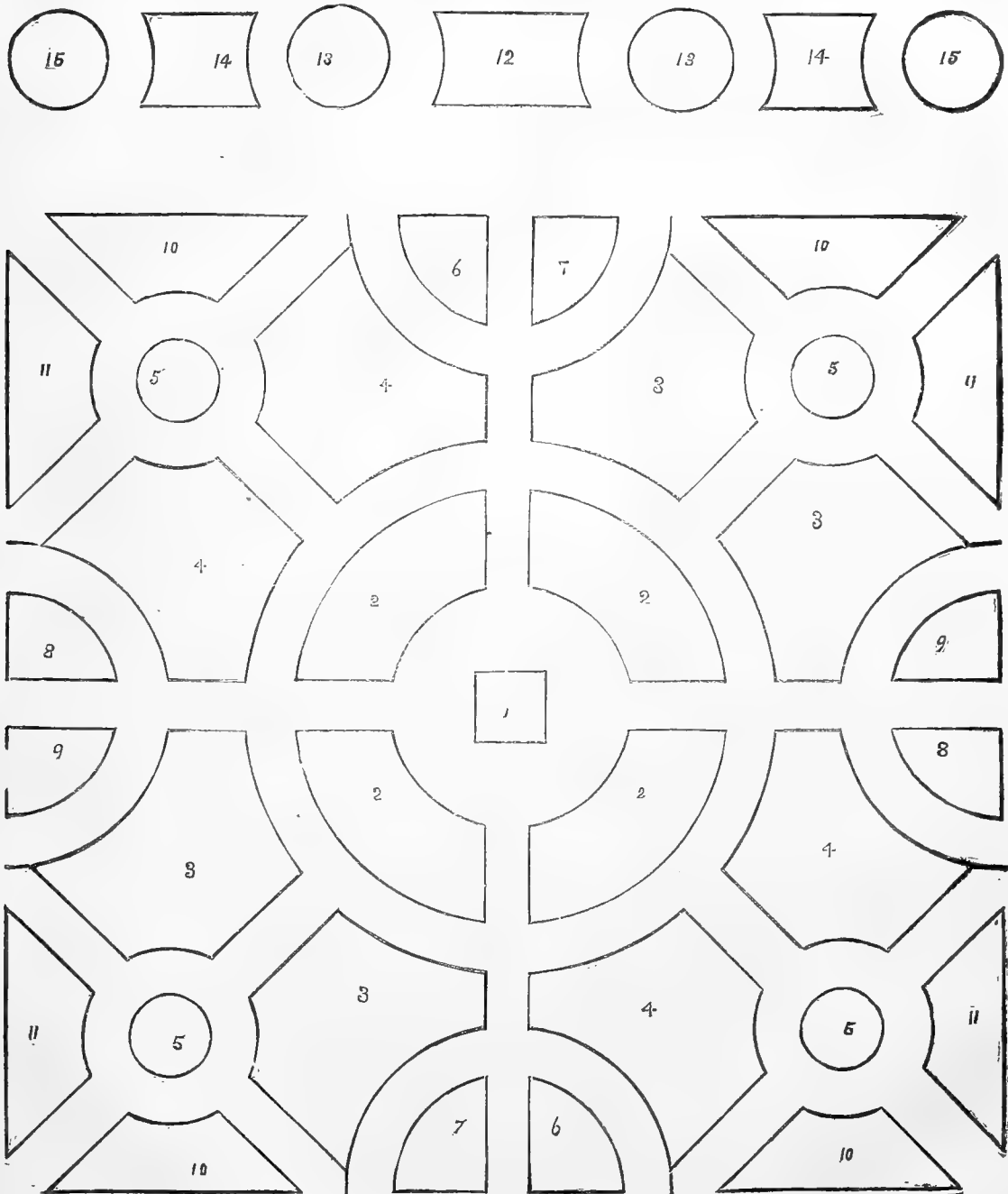


Fig. 71.—GARDEN PLAN AT ALFREDTON HALL.

- 1, Large vase.
- 2, Centre variegated Geranium, with a band of *Colerus Verschaffeltii*, edged with Golden Feather.
- 3, Centre Geranium Waltham Seedling, with a band of white Verbena, edged with blue Lobelia.
- 4, Centre Geranium Amy Hogg, with a band of lavender and white-striped Verbena, edged with blue Lobelia.
- 5, Centre single plant of *Ricinus elegantissimus*; bed planted with *Iresine Lindeni*, edged with Golden Feather.
- 6, Striped Petunia, edged with blue Lobelia.

- 7, Variegated Geranium, edged with Lobelia.
- 8, Geranium Cloth of Gold, edged with Lobelia.
- 9, Geranium Christine, edged with Lobelia.
- 10, Purple King Verbena, edged with *Dactylis glomerata variegata*.
- 11, Prince of Orange Calceolaria, edged with Lobelia.
- 12, Geranium Lady Callum, edged with blue Lobelia.
- 13, White Verbena, edged with *Colerus Verschaffeltii*.
- 14, Crimson King Verbena, edged with *Mesembryanthemum cordifolium variegatum*.
- 15, Gold and Bronze Geranium, edged with blue Lobelia.

Turning into the range of glass houses, the first was a late vinery with a collection of mixed plants growing underneath the Vines. The second house was a conservatory with fine

Camellias planted in the back border. On the stage I noticed well-grown Pelargoniums, Fuchsias, and such other greenhouse plants as are generally found in well-regulated establishments.



The next house was a vinery devoted to Muscats. Here also was a mixed collection of plants, for so great is the demand for flowering and fine-foliage plants for the embellishment of the mansion, that Mr. Marks has to economise every inch of space and make the best of his glass accommodation. With regard to the Vines we cannot speak in flattering terms. As the worthy proprietor is but a young gentleman, it would afford him and his able gardener the most satisfaction to have the Vines rooted out and start with a fresh set. We have known these Vines for more than twenty years, but never saw them with a crop of Grapes worthy of the trouble they incur and space they occupy. The last house in the range was the fernery. Here we observed some fine plants of *Blechnum Corcovadense*, *Pteris elegantissima*, *Neottopteris nidus*, *Dicksonia antarctica*, *Adiantum concinnum latum*, *Adiantum cuneatum*, &c.; also Palms and Begonias.

Leaving these houses we crossed the grounds in the direction of the kitchen gardens. Just outside the garden gates there was a pool of Nymphæas with their lovely blossoms floating on the surface of the water. Passing into the walled kitchen garden, which is just two acres in extent, but like all other gardens of this class, there are some large strips outside the walls. On the lower side the centre walk there was a ribbon border planted as follows:—Front row *Lobelia speciosa* and *Dactylis glomerata variegata* alternate, second row was a pink Verbena, third *Geranium William Underwood*, and the last Dahlias.

We next entered a range of houses, the first of which was for Peaches. There was a good crop of Royal George, Noblesse, and Grosse Mignonne. The second house was also Peaches; the crop was moderate, but the fruit fine in quality. The third house was an early vinery, chiefly Black Hamburgs and Muscat Hamburgs. The fruit was ripe by the first week in June, and though the bunches were not quite so large as we are sometimes accustomed to see, yet they were well finished and such as are always acceptable at a gentleman's table. The next house was a Muscat vinery with Gardenias on the stages. Standing a little distance from the latter was a span-roofed Pine house containing some good fruiting Pines, besides some fine specimens of *Caladiums*, *Dracænas*, and *Cissus discolor*. In a span-roofed house the Cucumbers were in good bearing condition, and we noticed specially such sorts as Telegraph and Tender-and-True doing well. In the adjoining Melon house the plants were flourishing, and Read's Hybrid and Queen Emma appeared favourite sorts. Besides the Melons and Cucumbers there were hosts of Achimenes, Coleuses, and other plants, all required for the decoration of the mansion.

The Apricots on the walls were rather a failing crop. In the various quarters in the kitchen garden Peas and other culinary vegetables were in good condition and plentiful. We were pleased to notice the marked improvement of the gardens generally since they came under the management of Mr. Marks, and have no doubt if the like progress is maintained in the future that has been observable during the last three or four years that they will soon compare with the best gardens in the district.—Q. R.

### MESSRS. JACKSON & SON'S NURSERIES, KINGSTON-ON-THAMES.

WHETHER it be to the plant-exhibitor, botanist, or florist, this establishment is always attractive. The name of this firm has become very familiar from the many victories won at the great metropolitan and other large shows. No other nurseries are richer in Cape and New Holland plants, and in few places are they grown in greater profusion; but these are not the only plants that are grown well here, for florist flowers receive more than ordinary attention, and the show house is particularly gay just now with a fine display of *Chrysanthemums*. Situated in one of the main streets of Kingston it presents one mass of bloom to passers-by, and many a hasty pedestrian stops to admire the gayness of the interior. At the time of my visit these plants were just at their best, and were equal to any I have seen this season.

MESSRS. JACKSON have received some new Japanese varieties from Monsieur Lemoine, and it is to be regretted that some of them were not shown at South Kensington at the last meeting, where they would doubtless have been certificated, especially Fulton, a bright golden yellow, very pleasing, quite 6 inches across and of great substance, in the way of Elaine; Fulgore, quite a novelty among the Japanese sorts both for shape and colour, somewhat the colour of the old Ariadne; La Nymph,

Nuit d'Hiver, M. Lucien Barthere, and Lacinatum. These were the most noticeable of the new varieties. Of the good older sorts I noticed *Grandiflora*, Chang, Baronne de Prailly, quite 9 inches across; James Salter, Elaine, Magnum Bonum, Bismarck, Fair Maid of Guernsey, the best for decorative purposes, for it can be cut with such a length of stalk, and is one of the freest to bloom; Apollo, and Bronze Dragon. Among the incurved varieties were both the Golden and White Beverleys, Mrs. G. Rundle, and her sports—Mr. G. Glenny and Mrs. Dixon. What a pity these sports are not designated Primrose Mrs. G. Rundle and Golden Mrs. G. Rundle, for Mrs. G. Rundle is known and valued by all growers, and her sports are valuable additions, especially Mrs. Dixon, for here we have the colour of *Jardin des Plantes* combined with the symmetry of the parent, Mrs. Rundle. Empress of India, Prince Alfred, Venus, Eve, which I never saw better; Pink Perfection, *Jardin des Plantes*, White Globe, Golden John Salter, and Princess Teck, this last a grand late variety. Triomphe du Nord and Mazeppa are two good reflexed varieties, and among the Anemones are Gluck, Lady Margaret, and Bijou.

Another house contained excellent samples of Orchids, among which were *Phalænopsis Schilleriana* with leaves 15 inches long, *P. amabilis*, *P. grandiflora rosea*, and *P. Lüddemania*, all in fine health, and showing flower spikes; *Oncidium Weltoni*, *Dendrobium formosum giganteum*, *Saccolabium retusum*, and a batch of many dozens of *Cypripedium niveum*. In the same house were three very large plants of *Platycerium grande*, and an improved form of crested *Pteris*, raised by Messrs. Jackson, and named *P. magnifica*. In the cool Orchid house was a very fine plant of *Cœlogyne cristata*, with large plump growths, attributed to the cool treatment it receives; it certainly looked remarkably healthy and thriving. There were also here good examples of *Odontoglossums*, *Cattleya Mossiæ*, *Epidendrums*, *Vandas*, &c. Parallel with these houses is a large stove, in which are grown *Alocasias*, *Crotons*, *Dracænas*, *Dieffenbachias*, *Ixoras*, *Marantas*, &c., and here too are many of the large specimen *Allamandas*, *Dipladenias*, *Ixoras*, *Bougainvilleas*, *Eucharis*, &c. Two large houses are filled to overflowing with *Heaths*, *Pimeleas*, *Aphelexis*, *Phœnocomas*, *Staticeæ*, *Dracophyllums*, *Genetyllis*, *Azaleas*, and other greenhouse-flowering plants, ranging from a foot to 6 feet through, from the quarter and half specimen size to full grown "elephants." Another house, running at right angles with these last, is an intermediate house, rarely kept above 50° to 55°, and there were *Vandas*, *Aërides*; *Dendrobiums nobile*, *Wardianum*, *crassinode*, *Parishii*, and *Falconeri*, all in fine health, and with extraordinary large new growths. In this same house was a vast number of *Anthuriums Scherzerianum*, from plants that would measure 4 feet through to small pieces in thumb pots. I noticed a healthy plant of the white variety about 18 inches through. There were also very fine plants of *Aracaria Rulei* and *Platycerium alciorne major*, a very robust and erect-growing variety of *alciorne* with much darker fronds.

Three new pits have recently been erected, each 127 feet by 13 feet. One is entirely full of Show and Fancy *Pelargoniums*, strong and stocky, including great quantities of Kingston Beauty, Mrs. Bradshaw, Mrs. Lewis Lloyd, Chas. Outram, Leopold, The Moor, and Eva Baker, all new forcing decorative varieties. The other pits contain *Bouvardias*, *Heliotropes*, double *Primulas*, *Cyclamens*, and winter-flowering *Begonias* in vast numbers. In a small house devoted to Ferns there were growing large quantities of *Adiantum farleyense* and all the leading kinds, while of British Ferns their collection numbers over two hundred species and varieties.

There is also a large *Camellia* house; the *Camellias* planted out, and just coming in bloom. A couple of other houses, which contain a thousand *Azaleas* in 48-sized pots, small *Camellias*, *Epacris*, and winter-blooming *Ericas*, and a corner for *Todeas*, *Trichomanes*, and other Filmy Ferns; and many other objects deserving being recorded, but time and space forbid.—J. W. MOORMAN.

### OUR BORDER FLOWERS—SWALLOW-WORTS.

WE are indebted to North America for the hardy herbaceous Swallow-worts we possess. They are not what we call choice border flowers, yet where variety and change are sought after they are desirable. Being strong growers they are well adapted for large borders, open spaces in shrubberies, and other out-of-the-way places where choicer plants will not live. *Asclepiases* will bear partial shade, but they enjoy light and

sunshine; they are impatient of stagnant moisture, but thrive well in a light free soil, a mixture of sandy loam, peat and leaf soil best meeting their requirements. The place intended for their reception should be well broken up to a depth of 18 inches or more, and the compost be well incorporated with the soil. They should be planted firmly, and being tall-growing plants they require staking to prevent them being broken with the wind. When once established they will last many years. They are increased by seed sown in the spring, and division when growth has commenced.

*Asclepias syriaca* appears to have been imported in 1629, but has not found much favour amongst us. In its native home it is said to be very odiferous, charming the traveller when passing through the woods at eventide; it is also said that it is eaten as a vegetable by the inhabitants. The pods afford cotton, which the natives collect to fill their beds with. Parkinson says, on account of the silkiness of this cotton it bears the name of Virginian silk. *Asclepias tuberosa* is the most frequently met with in cultivation, but it is by no means a common plant. There are other kinds enumerated, and which are worthy of being added to collections of "old and rare" plants.—VERITAS.

### POTTING.

[As a "YOUNG GARDENER" doubts the necessity of being so particular about placing drainage in flower pots and of the little details of potting frequently recommended, let him and other young gardeners read the following, and "little details" will not then, we trust, be considered too trivial for adoption. —EDS.]

Or all the numerous operations which come within the range of the gardener's art, that of potting and shifting tender plants from one pot into another must be regarded as one of the most important. A volume could be written on it without exhausting its details or exaggerating its importance in its relation to the numerous varieties of plants and fruits now cultivated in pots. If in anything in gardening "practice combined with intelligence," be not necessary, certainly it is not in potting. By potting we do not merely mean the mechanical operation of surrounding the roots of a plant in a pot with soil. A mere machine might possibly be invented to do that. It might even, perhaps, be taught to a Saturday Reviewer!

Not only does every family and genus of plants require different treatment in this respect, but each species and variety requires to be studied, and the potting adjusted to its peculiarities of constitution and growth. The intelligent observation and sound reasoning of the cultivator must be carefully exercised in the performance of this important operation, or high cultivation need not be looked for as a rule. And very much as has the progress of horticulture depended on the observation or notice-taking of practical men, we question if from any other source improved practice in cultivation has resulted so much as it has from the observations and deductions of practitioners at the potting-bench. However the fact can be accounted for, it has come within our knowledge that men who could discourse eloquently on the science of horticulture, and profess to teach the sound principles of all its branches, make a most complete bungle of potting or shifting a plant, and succeed chiefly in violating every principle on which the health of their subjects depends. In very many instances the practitioner has had no navigate his way to success with next to no extraneous aid, and this forcibly applies to the potting of plants.

We have often thought it a pity that in purely botanical serials, and in the very interesting botanical descriptions of new plants which appear in gardening periodicals, the botanist does not condescend to tell us how much he knows of the soil and other conditions in which plants are found thriving in native homes. This is to be regretted, seeing that they have opportunities of learning this which gardeners cannot have, and which plant-collectors do not always attend to. The consequence is, that the "right way" has to be found out by the experiments and observations of practical men; and is it surprising that at first they miss the way? It is more surprising that they should be sometimes sneered at for the first failure or two.

In most instances pots are a necessary evil. This being the case, it is of a paramount importance to mitigate the evil as much as possible. By way of throwing out a few hints calculated to be useful to beginners at the potting-bench—among whom we would include our scientific friends who may try

their amateur hands at this operation, by way of relaxation perhaps—we would remark that the first thing to be considered in potting a plant to be placed in a glass house is that in nearly every respect it is being placed under circumstances that are thoroughly artificial. The space for its roots is unnaturally restricted, and contains, comparatively speaking, but a few handfuls of soil, which, along with the roots, is exposed to the drying influence of air, not only on the surface, but at the bottom and sides of the ball as well. This exposes the plant to be constantly and rapidly robbed of the moisture necessary to its existence, and much of the food supplied to it within the compass of its pot. This unnatural loss has as constantly to be made good by large supplies of water artificially supplied to soil in the very artificial position of being in a pot. This state of things has a constant tendency to call into play a host of other evils which have to be carefully obviated in the choice of materials for, and in the operation of, potting. It being necessary to administer copious supplies of water almost daily, and sometimes oftener than once a day, the two most prominent and destructive conditions incident to such a necessity are those of stagnant water and the rapid decomposition of the organic substances in the potting material. To some extent these evils are dependant on each other, and are nearly always in existence at the same time.

Perhaps the draining or crocking of pots may at this era of horticulture be considered too common or too trifling a subject to dilate on with profit to readers. Good cultivators do not regard any point trifling, and we are content to submit our verdict to the most successful growers when we say that the draining lies at the foundation of successful pot-plant culture, and that it is one which, if not properly performed and adjusted to the nature of individual plants, will thwart the most careful and correct attention to all other points of culture. Not only so, but we are convinced that the carelessness and unbusiness-like way in which it is performed in very many instances warrants that its importance should be made very prominent; and in a long and extensive practice we are now more convinced than ever that more ill-health and disease and death are caused by inefficient drainage of pots than by any other cause, or perhaps all causes put together. Is it not, therefore, strange, as Mr. Speed of Chatsworth once put it in these columns, that the crocking of pots is very often intrusted to the boy or woman of the establishment? It is an operation which we have long ago ceased to delegate to such hands except in the case of the most common plants that have to be in pots but for a very short time. We should much rather see the foreman of the establishment doing this work than the boy when plants of any importance are concerned. This much by way of impressing the importance of the drainage of pots on the minds of the careless and inexperienced.

It is not only nor so much on the quantity of crocks put into a pot, as on their proper adjustment, that success in carrying off all superfluous water from the soil in a pot depends. A pot half full of crocks may not be so well drained as another may be with only an inch. In all well-ordered gardens where pot plants are grown there should be three or four different sizes of crocks, sizes that may be termed for ordinary purposes, inch, half-inch, and quarter-inch crocks, which, in breaking up a mass of crocks, can be easily assorted by using sieves of different sizes. These should be clean as the pots themselves, and all dust should be separated from them. Speaking generally the largest of them should form three-fourths of the drainage of large pots, and the other fourth, consisting of the second size, should be blinded with the smaller, and over all a little dry moss, or a portion of the most fibry of the soil, should be placed. In a moist stove where plants have to be heavily syringed, or in the case of delicate hardwooded plants, a 14 or 16-inch pot should never have less than 3 or 4 inches of drainage thus arranged; while in the case of special and shallow-rooting plants it should be double this amount, or even more, just as the tendency of the plant is found to be surface-rooting. An 11-inch or an 8-inch pot will be sufficiently drained with a lesser depth of crocks in proportion to its size; 2 inches and 1½ being generally sufficient, but always arranged with the same scrupulous care. This rule applies with augmented force to all plants that are plunged, such as Pines, and to plants of delicate constitution, whether they be soft or hardwooded. The concave side of the crock or piece of broken pot should be placed undermost in placing it over the holes in the bottom of the pots, for, if placed the other way, it too often fits too closely to the pots to admit of the ready passage of the superfluous water. Thus arranged, the soil used in potting does not

get down amongst the crocks and prevent their serving their intended end.

If anyone wants to prove—who has not done so already—that this is a trifling part of plant culture, let him take two Heaths, Azaleas, Camellias, or even a Pine plant, or a Pelargonium, and drain the pot for one of them as above described, and the pot for its fellow by carelessly—a by no means uncommon practice—rumbling into the bottom of the pot a few large and ungainly pieces of dirty pot or brick, and subject the plants to the same treatment otherwise, and they will be witnesses to results so diverse that the matter will soon come to be regarded as of paramount importance; and they will not consider that we have insisted on the strict observance of a trifling point of culture. We might almost say that what the foundation is to the structure, the proper draining is to the successful growth of plants in pots.

Only the other day we were engaged in shifting some Azaleas which had their pots properly drained two years since, and on turning them out of their pots the crocks fell from the bottom of their balls as clean as the day they were put in. The roots of these plants were in the most perfect health, ready for increased feeding ground. In the case of others which had a few large pieces of crocks pitched carelessly into their pots, the passage for water was next to entirely filled up by the soil working down among the crocks to the bottom of the pots. The consequence was that half the ball stuck in the pot, and it was a soured mass of peat, in which the roots had perished, if ever they had entered it at all. Such crocking in conjunction with old unwashed pots is in time certain death to plants, if the evil is not timeously put right.—(*The Gardener*.)

### EUCALYPTUS GLOBULUS.

INFORMATION being asked as to its hardness, I am enabled to state that I was presented with a specimen in the spring of 1875, which I planted in the centre of a flower bed in my garden. It was then about 6 inches high, but is now at least 8 feet, with a stem 6 inches in circumference, and very healthy. It suffered somewhat during last winter from the frost, but not to any considerable extent. My garden is at the rear of the house, which is on the seashore facing the east, so that it is partially sheltered; but it is exposed to the north and north-west winds, which we get in this locality with no unsparing hand.—W. H. DIGGES, *Sandymount, Dublin*.

IN reply to Mr. G. Abbey, in your *Journal* of November 16th. In 1869 I raised a plant from seed, which when it was about 2 feet high I planted in a south border. It was cut down by frost to a single leaf. I then repotted it, tied up the single leaf to a stick, and placed it in a small hothouse; there it very soon recovered itself, and grew into a tree too large for me in less than two years. It still lives in the large conservatory of a friend, but will, I suspect, soon outgrow him too. Whether it could now be hardened so as to stand frost is an interesting question.—S. C.

I AM glad to see that your valued correspondent, Mr. Abbey, has drawn the attention of your readers to the possibility of acclimatising this fine plant, as I firmly believe that it can be done by those who possess both skill and space, but I think it must be protected for two or three winters. I have grown it for some years without bottom heat. Sowing the seeds in the open garden in April, planting out the seedlings when a few leaves appear; they grow about 2 feet. In the autumn I pot them in common garden soil, and place them in an old Cucumber frame, and the following spring plant them out where I want them to stand. They grow to about 7 or 8 feet in height; I then destroy them, as I have always assumed that they would not winter without protection, which I have no space to afford them. But in future, as Mr. Abbey seems to consider that there is some hope of success, I shall try what I can do in my small way to preserve them. Is the globulus and globosus the same? The leaf of the latter is much darker.—G. D.

[There is no species named globosus. It must be a misnomer for globulus.—Eds.]

WE have here some very fine specimens of the *Eucalyptus*; they are about six years old, and have stood unprotected for five years. Some of them have attained the height of 35 feet, with stems 18 inches in circumference, and appear quite healthy. They were grown in pots the first year, which in my opinion was a mistake, for the roots if crippled when young

do not gain sufficient hold of the soil to support the heavy heads of the trees. It may be observed that the *Eucalyptus* sends down a strong tap-root, which is no doubt its chief support, and if this root is stopped by coming in contact with the bottom of the pot it will never again resume its former course, even when the tree is planted out. I have proved this by the above specimens, for had it not been for the aid of some large stones placed round the bases of the trees they would have been overturned by the storms. The seeds should be sown where the trees are required to grow, protecting them with spruce branches for the first winter.

I have sown seeds of *Eucalyptus* in different situations, and have found the young plants do admirably in all cases; but those in sheltered places have attained a larger size, but do not appear so hardy as those in exposed positions. Most of the seedlings have grown to the height of 2 feet during the first season, and have withstood 8° of frost on several occasions this winter unprotected. The seeds were sown on the 20th of April in small patches of well-prepared ground, placing about twelve seeds in each patch, and covering them to the depth of half an inch with a compost of sand, loam, and leaf soil. I thinned out the seedlings, leaving three of the strongest in each patch, which will remain through the winter. Those that were removed I have placed in pots and purpose using them as foliage plants in the flower garden next summer.—ANDREW CAMPBELL, *Muckross Abbey, Killarney*.

### BLUE GEM VERONICA.

OBSERVING for the last several weeks in the *Journal of Horticulture* favourable remarks on the above plant, I have thought it just possible that its origin might not be known to some of your readers, and who may like to know a little of its history.

I must go back to the spring of 1868, when I discovered growing in my forcing house in a pot, where an Azalea was the principal occupant, what I thought at first to be a weed of some kind, then in its first pair of small seed leaves, but seeing that it differed somewhat in general appearance from most weeds with which I was acquainted I let it remain till the seed leaves had developed and the second pairs of leaves made their appearance. Then I potted it into a thumb pot and looked after it more carefully, soon discovering it to be a seedling *Veronica*. During the spring and summer of 1869 I propagated it as much as it would allow of, with the exception of a few plants which I grew on for specimens, treating them liberally both in pots and open borders. Finding it constant to its original habit I began to exhibit it in August, and took five first-class certificates for it at various horticultural exhibitions with plants only two or three days previously taken from the open borders. The last place of its being exhibited was before the Floral Committee of the Royal Horticultural Society, who awarded it its honours without a dissentient voice. Ultimately I sold the stock to Messrs. Cripp & Son, nurserymen, Tunbridge Wells, who sent it out in trade order the following spring.—H. W. WARREN, *Gardener to the Earl of Portsmouth, Hurstbourne Park, Hants*.

### CUCUMBERS.

THE past season has not been one of the best I have witnessed for growing Cucumbers. In the first place we had an unusually cold spring, with but very little sun, and this weather lasted far into what should have been summer; then came a sudden change to exceedingly hot weather, rendering it difficult to supply the plants with a sufficiency of water at the roots, and to keep the house at the proper humidity for the health of the foliage. My Cucumber house is about 24 feet in length and 12 feet in width, and as I have a strong demand for Cucumbers it becomes me to grow the sorts which are the most productive. For the purpose of experiment I tried several varieties, planting them the last week in February, and I began cutting early in April. The plants were removed the first week in November.

The first to mention is Nonesuch; not a new variety, but perhaps not so popular as it should be, as I found it an excellent kind, very prolific, and handsome, growing from 18 to 22 inches in length, of a deep olive colour, of good quality, bearing well till the finish of the season. Telegraph needs very little comment, as it is admitted to be a most useful variety, and ought to be grown in all gardens. Tender and True I regard as an exhibition variety, and for that purpose none can surpass it. Cox's Volunteer I found extremely use-

ful; it is a very quick-growing variety, small, but of good quality. Star of the West is a variety in strong repute with market gardeners in this neighbourhood, but it is not adapted for growing in a house. In a span-roof pit, where it had plenty of room to ramble about, it did remarkably well, but it evidently does not like much pruning. The last on my list, but not least, is a variety that I mean to give another trial; it is Osmaston Manor. It has done very well with me, producing some splendid fruit, from 24 to 28 inches in length. I grew Tender and True about the same length, but I must give the palm to Osmaston Manor for flavour. It is also valuable as keeping its colour a long time after growth has ceased—a point of no small importance at the end of the season, when Cucumbers are becoming scarce.

For general use I prefer Telegraph and Nonesuch, for the exhibition table Tender and True, while Osmaston Manor promises to be good for any purpose; but one cannot cut a fresh fruit every day from a long-growing variety when space is limited. Perhaps some other growers will state their experience with different varieties, for the time is approaching when preparations must be made for the Cucumber supply of next year.—J. P.

### NOTES AND GLEANINGS.

A MEETING OF THE DEBENTURE-HOLDERS OF THE ROYAL HORTICULTURAL SOCIETY was held on the 23rd instant. The result was passing unanimously the following resolution:—"This meeting declines to authorise the surrender of the lease of the Garden to the Commissioners on the terms mentioned in the letter of the 2nd November, 1876; and this meeting will not authorise the surrender of the lease unless provision be made for the payment of the debenture debt in full or by instalments, and that a copy of the resolution be forwarded to the Society."

At present a houseful of *BOUVARDIAS* at Messrs. Veitch's Royal Exotic Nursery, Chelsea, is very attractive, and the visitor cannot but observe the marked superiority of the variety *Vreelandii*; it is the most profuse bloomer, except *Hogarth*, from which it sported. These two are grown in large quantities. A variety named *The Bride* is of the purest white, and well worth adding to a collection of these plants. *Rose Queen* is distinct and beautiful. Amongst Tree or Perpetual-flowering Carnations the pure white variety *La Belle* and the flesh-coloured *Miss Jolliffe* are the best in their respective classes, and produce flowers in abundance.

A CORRESPONDENT, writing to us from Merionethshire, states that *MANDEVILLA SUAVEOLENS* is growing and flowering out of doors at Peniarth without any protection. A plant of it has been so growing for about four years on the south-west side of the house; it is now about 12 feet high, and this year has flowered very well. It is also similarly growing at Bodrhyddon near Rhyl, the seat of Captain Rowley Conway. We shall be glad to hear further as to the hardiness of this sweet-scented climber, and how many degrees of frost it has endured without receiving injury.

We have received from Mr. H. Cannell, Swanley, Kent, trusses of thirty varieties of DOUBLE AND SINGLE PELARGONIUMS, which for size, symmetry, and variety of colours we have never seen surpassed at any season of the year. Some of the pips of the single varieties are nearly 2 inches in diameter, and are stout and of good form, and the double varieties are full and fine. The colours range from pure white to crimson-maroon, and embrace all the tints of pink, rose, cerise, salmon, with orange-scarlet, and a decided dash of yellow in one, which we recognise as *Jealousy*; another variety, "*New Life*," being bright scarlet flaked with white and rose like a *Carnation*. Such flowers at any season are meritorious, but to have them in profusion during the winter months renders these superior varieties more than doubly valuable; they are in fact indispensable for winter decoration.

Mr. E. BENNET, Rabley Nurseries, writes, "Could any of your readers inform me the name of the person who sent out *GARIBALDI STRAWBERRY*, or the reputed raiser of it? This might give a clue to its identity with *Viscomtesse Héricart de Thury* or otherwise.—(See p. 467.)"

We have recently admired a number of plants of *APHELANDRA ROEZZII*, which were raised from seed sown in February last. These plants are in 5-inch pots, and their short vigorous spikes of fiery scarlet flowers are exceedingly rich. Since these brilliant plants can be so easily produced it

is surprising that they are not more frequently seen. They are stove plants of the greatest decorative value, and are worthy of extensive cultivation.

A "CONSERVATORY FOREMAN" writes to us as follows:—"I have recently potted a number of plants from the open ground of *SCHIZOSTYLIS COCCINEA*, and for the next two months they will produce their brilliant flowers in profusion. Few plants are more effective and more easy to grow in large quantities than this. All the cultivation that is required is to plant in good ground in April and pot again in October, and scarlet flowers will be provided for the remaining part of the year."

Few plants give better evidence of the "power of cultivation" than *SEDUM SPECTABILE*. The best variety of this old plant is attractive even when struggling for life, as it were, in the crevices of rocks or in the crowded thicket of the wilderness or neglected herbaceous border; but when well grown—that is, when young plants are raised and planted in good soil, they produce an effect little short of surprising. Never shall we forget seeing some wonderful beds of this plant at Drumlanrig. Many of the flower heads could not have been less than a foot across, and the rosy-pink surfaces of the beds were as level almost as a "glassy pool." Mr. Record, we have noticed, grows this good old plant well at Vintners Park, and it would be useful if he would describe his mode of culture.

SOME small beds at the CRYSTAL PALACE are effectively planted with dwarf evergreens; one from its simplicity may be noted as an example. The centre is filled with *Cryptomeria elegans*, and surrounded with dwarf plants of *Aucuba japonica*; next to the *Aucuba* comes a band of green Box, then a row of *Euonymus radicans variegatus*, the margin being planted with *Golden Feather*. The centre of the bed is not more than a foot in height, and the surrounding rows diminish in height as they approach the margin. The effect of these distinct yet diminutive shrubs thus arranged is quite cheering, and the beds will continue attractive throughout the winter without receiving any attention whatever. They are a great improvement on beds "furnished" with bare brown soil.

THE unsightly patches of BARE GROUND AROUND THE STEMS OF DECIDUOUS TREES on lawns in pleasure grounds have been frequently observed and regretted. Under such trees grass will not grow, but the ground nevertheless need not be bare when a plant so plentiful as the common Ivy will cover it effectively. Ivy is the best of all evergreen carpet plants for planting under trees. A circle of closely kept Ivy 10 or 20 feet in diameter around the stem of an old deciduous tree is peculiarly appropriate, and adds greatly to the ornamentation of the lawn and garden. In covering the surface of the soil in dense shade, the best plan is to plant strong established plants of the common green Ivy at the present time. The plants should be closely planted, and they will speedily form a covering that will last a lifetime. It is an advantage if the Ivy has been established in pots previously to planting under the trees; such plants are now provided in most nurseries.

MR. W. J. TAYLOR writes to us that the NEWCASTLE-UPON-TYNE HORTICULTURAL SHOW was instituted in 1824, and has been held annually for fifty-two years, and he asks if any older horticultural society's show is known.

We have received from Mr. Harrison Weir, Weirleigh, a medium-sized bunch of MRS. PINCE'S BLACK MUSCAT GRAPE. For perfect finish, colour, and bloom an equally good example of this Grape seldom comes under our notice. The berries are also regular in size throughout the bunch, and are of good flavour. The bunch reflects credit on the cultivator.

ON the 9th and 10th the HAGERSTONE ENTOMOLOGICAL SOCIETY held its annual Exhibition at its place of meeting, No. 10, Brownlow Street, Dalston. It was only in 1857 that a few working men interested in insect-collecting discussed, in West Wickham Wood, the desirability of an east-end club for mutual assistance. A club was formed, and now numbers a hundred members. The subscription is but a penny a-week, but with this a reference library has been accumulated. The type cabinet for the collections consists of forty drawers, in which there are now some 15,000 specimens, and the library and collection together are insured for £200. All through the year the Society meets every Thursday, and many points of practical importance (some of them bearing on "the theory of evolution" put to the test by breeding) have been discussed. Among the ways in which members of the Society have done valuable work may be mentioned the preservation of the avenue of Elms in Victoria Park from insect ravages by a



knowledge of exactly how to proceed in dealing with the foe. Although this and several such societies do not obtrude themselves on the scientific world, they still, besides exercising a good effect on the members, often do work of sterling value.—(Nature.)

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

In our light soil scarcely any of the members of the Brassica family succeed well, but we usually have excellent spring Cabbages, and Brussels Sprouts do us good service all through the winter months. The best way of obtaining a continuous supply of sprouts is to clear off all leaves that become yellow during the winter months, and also allow the top to remain. If the sprouts are required early, then it is best to cut the top off, which throws all the strength into the side sprouts. A good supply of this excellent vegetable is very serviceable, especially when Broccoli cannot be had. Broccoli come in very useful in the spring, and they do tolerably well when good-sized plants are planted about the end of July. If planted earlier than this they will frequently club, and the large fine-looking plants will fall over in the winter and be spoiled.

Owing to the scarcity of Apples it will be necessary to make the most of Rhubarb. Some roots of this, as well as of Seakale, will be placed in the earliest vinery to force. Our system of management with small quantities has been frequently described. It is to lift the roots of the Seakale from the whole quarter, selecting the largest and most likely roots for forcing, and either planting out those not adapted for this purpose at once, or laying them in in a space of ground until it is convenient to plant them out in their proper position in the spring. We shall lift a quantity of Asparagus roots, and force them in a dung frame. They can be packed very closely together over the surface of the bed, but there must be a sufficient depth of soil under the roots to prevent their being burned with the heat of the manure. In the matter of forcing vegetables, of course much depends upon the time they are wanted. In small establishments a constant supply of Asparagus cannot be kept up from now until green Peas are ready, and it would be best for employers to arrange with their gardeners as to the time forced vegetables would be most acceptable. The late Mr. Robert Fish used frequently to make allusion to this matter, and it is one of considerable importance. Ladies and gentlemen know months before the time when they will be at home to receive visitors; but if they do not acquaint their gardeners of this in due time, they cannot expect to have proper provision made for the occasion.

We sowed a row of the new vegetable Witloof in June, the time stated upon the packet of seeds, but the leaves are still quite green; however, we shall lift a portion of the roots, cut the leaves off them, and store in a cool shed to be ready for forcing. The roots will be potted and forced in a dark place, and the growth will be cut when about 6 or 9 inches in length. A good supply of Mustard and Cress can be kept up by sowing the seeds in boxes and placing these in any house where there is a little heat.

### VINERIES.

The Vines in the earliest house have been started by giving the borders outside and inside the house a good supply of tepid water. The outside borders of all the early houses are annually covered with fermenting material as soon as forcing begins; this retains the heat in the border, which is raised a little by the tepid water; and although but little heat can be forced into the border by the heat of the material, still it must warm it to the depth of a few inches. In many instances when manure and leaves have been placed over the surface of the border they are left to the effects of cold rain, melted snow, and intense frost. This is often a very great mistake; the rain ought to be thrown off by wooden or other shutters, and these ought to be arranged so that the rain drains quite off the border, for it cannot but be injurious to conduct the rain water to the front of the border where the most useful roots are, and allow it to soak down there and destroy them. Sometimes the inside borders are covered with some heating material. This causes a little extra trouble in turning it over and adding to it to retain the heat, but it is the best treatment for the Vines, and also saves a considerable sum in fuel; and another item on the saving side is that not so much use is required for the syringe. The genial moisture from the manure, or, what is better, oak leaves and manure in about equal proportions, dispenses with syringing; still, on the forenoon of any sunny day it is as well to dew the canes over with tepid water.

As opportunity offers other vineries may be prepared for forcing by thoroughly cleaning the glass and woodwork, as well as washing the canes with soapy water after they have been pruned, and painting over the rods with the usual mixtures. Where Grapes are hanging it is still necessary to be very prompt

in removing all decaying leaves and berries. When the leaves are removed one principal cause of decay goes with them, as light and air are then much more freely circulated through the house.

### CUCUMBER HOUSE.

This demands daily attention to keep up the requisite degree of heat by night and by day, and to admit of a change of air by opening the ventilators a little about the middle of the day on every favourable opportunity. The shoots must not be trained in too closely to each other, as every leaf ought to be freely exposed to the light, and be close to the glass without coming into contact with it. There is so much condensed moisture continually running down the inside of the glass, and most on frosty nights, that any leaves in contact with it are speedily destroyed. Much good results from adding a very little surface-dressing to the border at intervals through the winter, which entices the roots to the surface, and causes the leaves to become of a deeper green than they would be without it. We are cutting excellent examples of Tender-and-True, Kelway's Conqueror, and another sort by the same raiser, the New Winter Cucumber.

### PLANT STOVE AND ORCHID HOUSES.

We are glad if any flowers at this period of the year to enliven the houses. Many species of the Orchid family do good service at this season, and now when their wants are better understood it is found that many which were formerly considered difficult subjects to deal with flourish well with the treatment given to ordinary stove plants. No Orchids are more useful or more easily managed than *Dendrobium nobile*; a plant of it at Loxford cannot now have less than five hundred fully expanded flowers upon it. They last in perfection for three weeks in a temperature at night of 55°. The *Calanthes* are in full beauty, and they may be said to be amongst the easiest cultivated of Orchids; from three to six strong spikes are produced from three bulbs in a 6-inch pot. Some persons grow a score or two of bulbs in a large pan, but the smaller number in 5 or 6-inch pots work in better with the ordinary occupants of the stove. The pots require to be concealed by the foliage of other plants. *Calanthe Veitchii* throws up magnificent spikes, and the darkest-coloured varieties of it are truly grand. Some varieties are very pale, and the amateur who has a particular taste to gratify ought to see his plant in flower before purchasing it, as the colours of the flowers range from pale pink to reddish crimson.

Passing from Orchids the *Eucharis amazonica* is now becoming a common flower, but it will always be valuable for cutting for any purpose for which choice white flowers are required. It is of easy culture, but requires a temperature of 65° to bring it to perfection. The two best *Bouvardias* are *B. Vreelandii* and *B. Hogarthi*; *B. jasminiflora* and others of that type are very beautiful, and some of them are of the purest white, but they are not well adapted for cutting.

### FLOWER GARDEN.

Now that the leaves have fallen from the trees it is desirable to have them cleared from the shrubberies and flower garden. The lawn should be swept clean, and everything made neat and enjoyable. The surface soil of the beds of spring plants should be stirred in fine weather, and weeds as well as withered leaves should be removed. The soil also requires to be pressed round the stems of some plants, as frost after rain is apt to throw them out of the ground. Pinks suffer most from this cause, but the ardent amateur will be constantly looking over his choice plants and will notice at once if anything is wrong. The leather-coated grub is a dangerous enemy to choice Pinks. We had about half a dozen of the grubs in our bed this year, and they did some damage before they were noticed. The grub eats the centre leaves first, then down to the heart of the plant, and when a plant is observed eaten in this manner the grub will in all probability be found buried in the ground to the depth of an inch or more close to the plant. It may be found just below the surface by scratching carefully with the fingers.

Carnations and Picotees are now safe in frames, and the pots plunged in cocoa-nut fibre refuse for the winter. Owing to the mild weather in October the plants have grown rather too much, but every means have been used to prevent their further growth; the lights are removed except during frost or wet weather. If the leaves become wet with rain at this season they are liable to spot, and the plants suffer more from this cause than from any amount of frost.

Auriculas are now parting with their superfluous leaves, and if they are not removed every few days they cause mould to settle around the necks of the plants; this mould if not removed before it penetrates under the outer covering of the stems destroys the plants altogether. It is of the utmost importance to destroy green fly on Carnations, Picotees, and Auriculas.—J. DOUGLAS.

## TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, Chester.—Catalogue of Forest Trees, Shrubs, Evergreens, &c.

Francis & Arthur Dickson & Sons, "Upton" Nurseries, Chester.—*Catalogue of Forest and Ornamental Trees, &c.*

Robertson & Galloway, 151, Ingram Street, Glasgow.—*Catalogue of Choice Gladioli, and List of Roses.*

## HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

NEWCASTLE-UPON-TYNE. March 21st and 22nd, 1877. Messrs. J. H. French, Benwell House, and J. Taylor, Rye Hill, Hon. Secs.

ISLE OF THANET. August 30th. Mr. C. D. Smith, Hon. Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expence.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*Lady C.*).—Robinson's "Alpine Flowers for English Gardens."

PRIMULAS (*Mrs. Gillum*).—Apply to any of the florists who advertise in our columns. Amateurs do not like being troubled.

LEMON TREE UNHEALTHY (*H. F. G.*).—What you call scabs are scale insects (*Coccus hesperidum*). Treat them as directed in our number 816.

DENDROBIUMS (*R. S.*).—D. Falconeri, D. Parisbii, D. speciosum, and D. Wardianum are evergreen or very nearly so; the difference between evergreen and deciduous depending in a measure upon the ripening of the growths.

HORTICULTURAL DIRECTORY (*Idem*).—Corrections should be made at office to the Editor at this office, which has been repeatedly announced in our advertising columns. No authority beyond that of a gardener is necessary.

FORCING LILY OF THE VALLEY (*E. D. Lyon*).—If you require Lilies of the Valley early, the crowns are best forced in bottom heat. A bed of leaves about 3 feet high is usually required, and in this the pots are placed, covering with about 6 inches of dry loose leaves. It is much better if a frame and lights be placed upon the leaves, which throw off rains and maintain a more equable temperature; besides, it may be necessary in severe weather to line the sides of the frame and bed should the heat decline, which ought not to be less than 75°, nor exceed 90°. When the flowers have grown 4 to 6 inches above the pots, the covering should be removed, and the plants be placed in a light position in a stove, where they expand and attain colour. We have seen them successfully forced by placing a rough frame of boards around the pots, and over that some boards so as to form a cover, leaving 6 to 8 inches of space from the surface of the pots to the boards, covering with leaves or litter about a foot to 15 inches deep, removing the Lilies to a warm house when the flower spikes were 6 inches long.

EXHIBITING CHRYSANTHEMUMS (*Whitehaven*).—The blooms sent do not belong to the large-flowering section, and they are only admissible for exhibiting in the classes for Pompons. The Ixora sent did not arrive in a fresh state, but it appears to be I. Williamsii, one of the best of the Ixoras.

LAPAGERIA RUBRA (*Amateur*).—Lapageria rosea is a native of Chili. L. rubra being only a higher-coloured form of L. rosea, which originated in this country.

REPOTTING DIPLADENIAS (*Idem*).—They require to be repotted annually, removing most of the soil from the roots—all that comes away freely without injuring them.

CHARCOAL AND SOOT FOR FLOWER BEDS (*Epsilon*).—Crushed charcoal is good for flower beds. You may apply it at the rate of a bushel to 30 square yards. Soot is a first-rate manure, and may be applied at the rate of one peck to 30 square yards. It is best applied in spring prior to planting, pointing it in lightly with a fork, or it may be applied as a top-dressing after planting.

STORING SALSIFY (*F. W. B.*).—We have this little-esteemed but very delicious vegetable up to June by taking it up now, cutting off the tops about half an inch above the crown and storing in moist sand in a cool shed. If you do not require it until April you may leave it in the ground until that time, but we think the quality of that stored is better than that left in the ground, especially for late use.

MAKING PUTTY (*W. Ruff*).—It is more economical to purchase than to make putty by hand. It is made by adding linseed oil to whiting in the proportion necessary to form it into a dough-like consistence, taking care to have the whole thoroughly kneaded, so as to be soft and pliant without sticking to the hand. You will require about 56 lbs. of putty, but the quantity will depend in a great measure upon the size of the squares of glass, and the rebate in the rafters and sashes for receiving it.

HOTBED OVER FLUE (*Idem*).—You will need to place some rubble upon the flue, rather rough at bottom and finer upwards, the depth of rubble being about 9 inches, and upon this you will need about 6 inches of plunging material, as cocoa refuse, and another 6 or 8 inches' space for the cuttings.

RÈVE D'OR ROSE (*Rus in Urbe*).—We fear the situation under the verandah will be too dark and dry; but as you say the plant is very healthy we should give it another chance, not pruning, but merely thinning out the shoots if too crowded, training them in their full length. The strong current year's shoots of this Rose do not usually produce flowers, however, until the second year. The Eucyonas, of which you sent a leaf, is, we think E. fimbriatus.

CULTURE OF MIMULUSES (*A Reader*).—We presume you intend to grow them in a greenhouse. We also presume that you have plants—seedlings or

cuttings, which should be kept over the winter in a cool airy part of the greenhouse, keeping them moist. Early in March they should have 7-inch pots, well drained, for though the Mimulus delights in moisture it does not thrive when the soil is soddened and sour. Cuttings may be taken in March, which strike readily in gentle heat, keeping moist and shading from sun until rooted. They should be put into small pots at first, and shifted into larger as they advance, giving the blooming pots in May. In June and onwards they will flower finely. They require a position near the glass and abundant supplies of water, never allowing the leaves to flag, and when in flower the plants should be shaded from hot sun. A compost of one half of turfy loam, and the other half formed of equal parts leaf soil and dry cow dung, the whole well mixed together, is suitable.

POTTING ACHIMENES (*Idem*).—The tubers may be started at any time from February up to June. They require a compost of equal parts of peat, leaf soil, and turfy loam, and a temperature of 65° to 75°. The plants will appear in about ten days or less if the soil is kept moist.

SOWING SEEDS (*Idem*).—Seeds of Carnations, Centaurea candidissima, Echeverias, Fuchsias, Pelargoniums, Acacias, and Cannas may be sown any time after the middle of February in a hotbed.

BEGONIAS AND GLOXINIAS (*Idem*).—They will succeed in a temperature of 45° to 55°, but will require to be started in heat in spring. A few of the best Begonias are Cheloni, Model, Vesuvius, Stella, Sedeni, Acme, Boliviensis, and Pearcei of the tuberous section; and insignis, Saundersiana, Weltoniensis, and parviflora of the herbaceous class. Gloxinias.—Erect flowers: Duchess of Edinburgh, Sir Stafford Northcote, Benjamin Disraeli, Fanny Wilder, Purple Prince, Sunshine, Grand Monarch, Madame Courant, John Gray, Brilliant, National, and Triomphe des Gloxinias. Drooping flowers.—The Sultan, Duchess of Teck, Gamos, Sir John Lubbock, Miss H. de Rothschild, Patrie, Lord Derby, Alsace, Madame Patti, Etna, Madame de Smet, and Hon. Mrs. Yorke.

DRAINING SMALL GARDEN (*Delta*).—It is quite as important to drain a small garden as a large field, but whether it be necessary to do so depends upon the presence of water lodging in the subsoil or not. If the garden be wet we should have a drain up the centre of 3-inch drain tiles laid 8 feet 6 inches or 4 feet deep, and having a proper fall and outlet. If you drain crosswise the drains must not be more than 18 feet apart.

CANTERBURY BELLS (*N. C.*).—Plant them out at once in light moderately rich soil in an open situation, but sheltered. The plants being small we should not allow them more than 6 inches' distance apart every way, otherwise they require a foot distance apart. They grow from 15 to 24 inches high, and flower from May to July.

SELECT VIOLETS (*Weston*).—The six best Violets are—singles: Victoria Regina, White Czar, and Devoniensis. Doubles: Neapolitan, Odorata pendula (New York variety of Neapolitan), Marie Louise, and Queen of Violets. If only six are wanted omit the Neapolitan. Prince Consort is the finest of all single Violets, but it is not yet in commerce.

CHRYSANTHEMUMS (*W. B. H.*).—Chrysanthemums are included in our pamphlet on "Florists' Flowers," post free 4d. Detailed cultural notes from successful growers will shortly appear in our columns.

FUNGUS IN VINE BORDER (*Subscriber*).—We presume that the fungus is to be found in the border in patches. In that case the most effectual remedy is to remove all the soil containing the spawn, and dust quicklime thickly over the space from which it has been removed, replacing with fresh soil.

MANAGEMENT OF POT VINES (*A Constant Reader*).—Vines which have been cropped heavily do not succeed well the following season. It would not be safe to shake the soil from the roots to repot them. We advise you to surface-dress with rich soil those in 16-inch pots, and repot the two in 8-inch pots, without disturbing the roots much, into 11-inch pots.

PLANTS FOR AQUARIUM (*Idem*).—Equisetum fluviatile, Aponogeton distachyon; Nymphaea nitida, minor, and odorata; Potamogeton nutans, Nuphar pumila, Stratiotes aloides, Menyanthes trifoliata, Richardia athiopica, and Myriophyllum spicatum.

DWARF PLUM TREES BARREN (*Ignoramus*).—You do not say whether your trees produce blossoms. If they do, it would seem that the varieties are too tender to withstand the effects of the spring frosts. Reine Claude de Bay and Prince Englebert are the only sorts in your list which we have tried as pyramids. We never could induce them to bear when they were removed biennially. We advise you to leave off lifting the trees. The sorts we grow as pyramids are mostly kitchen Plums, and they bear enormously—namely, Mitchellson's, Prince of Wales, Victoria, Pond's Seedling, Diamond, Orleans, Goliath, Rivers' Prolific, and Prince Englebert. All the finer sorts are grown on walls or in the orchard house. You will find all the necessary instructions for the culture of bush and pyramid trees in "Doings of the Week."

TREATMENT OF DENDROBIUMS (*Ashbury*).—Remove the pseudobulbs that form on the old growths as soon as a few roots are formed at their bases. The best time to repot Orchids is when they begin to make roots. "The Orchid-Grower's Manual" will answer your purpose, price 2s. 7½d. post free from our office.

WINTERING CACTUS (*Lady Subscriber*).—They would do in your granary with zonal Pelargoniums. The Cactuses would not require any water during the winter months, and frost must be kept from the plants.

POTTING LILIAM AURATUM (*Idem*).—You must not remove any live roots from the base of the bulbs, but remove the flower stalks with all the roots attached to them. It is quite time the bulbs were repotted.

MARÉCHAL NEIL ROSE UNHEALTHY (*J. A. P.*).—We fail to observe any disease on the leaves sent. They are probably dying off in the ordinary course of nature at this season. If the roots are healthy we think the plant will start well next year.

TEMPERATURE OF INTERMEDIATE HOUSE (*S. H. C.*).—During winter from 50° to 55°, it may even fall below 50° in cold weather. In summer no artificial heat is needed, and the temperature will rise according to the weather.

CARBOLIC DRESSING FOR PEAS.—Mr. Douglas, in reply to Mr. R. Foster says that this dressing does prevent mice from eating the Peas after they are sown. It is termed "King's Patent Carbolic Dressing," and should be advertised. We intend to try it on the seed Wheat, to prevent the attacks of rooks.

COVERING VINE BORDER (*J. T. T.*).—You would not err in covering the border as you propose, but in the absence of data as to condition of the border and Vines, and as to the time that Grapes are required, we are unable to give you definite advice as to the best mode of procedure.

**KITCHEN APPLES (L. T. K.).**—It is always advisable to note the sorts which flourish and yield best in a given district, for Apples seem to have local proclivities; for instance, in some districts the Hawthornden will not thrive, while in others it is one of the most profitable. Keswick Codlin is one of the most productive of culinary Apples. Beauty of Kent is valuable, as also are Dumelow's Seedling and the Gooseberry Apple. Blenheim Pippin forms a fine orchard tree, but is somewhat slow in arriving at a free bearing state. You may plant any or all of these named as standards.

**LILIES (Brixton).**—The arrangement has not been published.

**MUSCAT VINE IN STOVE (Y. L. B.).**—It would succeed, the cane being trained 15 to 16 inches from the glass. From January to March would be a good time to introduce the Vine. Venn's Black Muscat and Muscat of Alexandria are suitable, the latter being the finest of all Grapes. Any time from November to March in dry weather is a proper time to enlarge a Vine border, but November and March are preferable periods.

**WIRING CAMELLIA BLOOMS (Idem).**—You will need fine bouquet "stem" wire, which may be had of most florists, &c. The wire is carefully pushed through the flower under the petals about half an inch above its base, and another wire is pushed through on the opposite side, and both so as to have equal lengths of wire projecting on each side of the flower, forming a cross. The wires are then brought together downward, and a spray or two of Adiantum is placed around the flower, the wires are twisted, grasping the stems of the Adiantum, and form an artificial stem. The flowers require to be carefully handled, for if bruised they will in a short time become discoloured. Except for placing in water when it is necessary to have natural stems, we do all ours in the above way, and so preserve the wood (that would otherwise be removed) for future growth.

**APPLYING LIQUID MANURE (William J. Jervis).**—Weak liquid manure applied to Rose trees, Sweet Williams, and Stocks, also Cabbages and Greens of all kinds when the ground is saturated with moisture, is calculated to make the soil too wet, sodden and sour.

**SALSAFY (Idem).**—You are under a mistake as to the use of Salsafy. It is the roots that are edible, and not the tops or sprouts. The roots should be freed from fibres, washed clean, and boiled until tender, then have the outer skin peeled off, serving with melted butter.

**LATE PLUM (Idem).**—The Plum you describe is a kind of Bullace, we think the Royal Bullace, valuable for its lateness. There are other late culinary Plums very much better, as Coc's Late Red and Wyedale, a late form of Winesour, and grown extensively in the north.

**GRUBS (C. S. Bath).**—They are not the Phylloxera, but the larvae of some Saw-fly. A little gas lime mixed with the soil is the best remedy.

**VIOLETS (M. Hamilton).**—The leaves indicate excess of warmth and deficient light and ventilation. They are weak and spindly.

**KELP AS MANURE (E. L. Whitby).**—It is an excellent manure for Asparagus, Seakale, and Beet. Kelp is only burnt seaweed, and we always applied this unburned.

**GAS-HEATING (E. B.).**—In our number 841 are drawings and directions relative to various stoves.

**GLAZING.**—If "D. P. B." will send his name and address to Mr. Thomas Hardcastle, valuer, Boroughbridge, Yorks, he can be furnished with particulars from practical experience of glazing with lapless squares and no putty.

**SILK COCOON LIQUOR (D. P. Bell).**—If it has the beneficial properties you mention, the manufacturers should advertise it.

**NAME OF GRASS (W. W. E. W.).**—It is the Soft brown Sedge, or Carex intermedia, and is, as you say, very ornamental on the margin of water.

**NAMES OF PLANTS (Iris).**—No one can name Conifers from sprigs; cones should accompany the leaves. (W. F.).—Florists' varieties, and from mere leaves, we cannot name plants.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### LES BASSES-COURS D'ANGLETERRE.

#### CHAPTER XI.—FALCONERS, EDENBRIDGE.

We knew, of course, that Mrs. Christy was a most enthusiastic fancier, and has spared no sum to procure a yard of Buff Cochins as good as possible, but we were not prepared for any building so elaborate as we found upon her premises. We can only say, that all other establishments which we have had the pleasure of seeing are mere trifles to this in minute and elaborate arrangements. It is not a large place, but at every step we took we saw something new and out-of-the-way. At the back of the house are an orchard and a paddock enclosed with wire fencing, and on the left-hand side is a long row of houses with grass runs in front of them; beyond this are some portable houses in enclosed yards, and then further on still are some good open fields. It was, however, with the range of houses that we were so taken, for nothing possibly could be more perfect or more suitable for prize birds. We will endeavour to describe them.

They are a long range of red brick houses under one roof. At the back of them there is a passage from which every bird in each run can be inspected, and in front of each house is a gravel and a grass run, from which a door can be opened at pleasure to let the inmates walk into the orchard or paddock beyond. This may seem all commonplace enough, and to much resemble many yards formed on the same principle; but it was the unique arrangement, the wonderful brightness of everything, and the perfect cleanliness which made the houses so very noticeable. The first partition in the long range of buildings was the poultry room, where were staged on shelves a set of japanned canisters, on which were painted the names of the various contents—hemp seed, grits, spica, Dear's food, roup pills, condition powders, and many more such condiments; below them were the corn bins, in

which we found every conceivable variety of grain, dari, buck-wheat, &c. On the floor were rugs and mats, and there were two chairs and tables, so that Mrs. Christy could have a "kettledrum" there on any winter afternoon as well as she could in her own boudoir. In the passage behind the pens we saw stores with polished fireirons, and the grates blacklead to a perfect pitch. This corridor was lit with gas-burners, which had cut-glass globes. The pens were littered with clean wheaten straw, and had the names of their inmates painted on plates over the top like we should expect to find in model stables. The feeding pans and drinking vessels were as clean as new, and the grass outside closely mown and planted with ornamental shrubs. This is but a faint description of the wonderful order and cleanliness we found, and we have only to add that neither Mrs. Christy nor her poultry-man had the smallest idea we were in the neighbourhood, so the place had not been furnished and polished up unnaturally for the sake of the "Basse-Cour."

Now a few words as to the inmates. Buff Cochins everywhere—in the runs, orchard, paddock; flocks of pullets, droves of cockerels, hens, adult cocks, and cockerels penned in numbers of four or five. When we passed from the garden door and first saw the pullets basking in the sun they looked like a long buff bank of flowers. We could hardly realise they were a mass of Cochins, but so they were, and a good lot too; of course some were a little ticked in neck hackle or black in tail, but those were being rapidly sent to the higglers at 3s. or 4s. each, and only the *elites* would soon remain. The cockerels seemed many of them more backward, but we saw some good birds, and are pleased to have seen them since in the prize lists. Of the old hens one we were quite taken with, immense and well feathered, a "Tomlinson" we were told; if she only gets over the moult well she will be very valuable. And then among the adult cocks we saw "Kaiser II," son of Mr. W. A. Burnell's champion; and there was too "Canterbury," which we believe we saw second at the Palace among the old Buff cocks, a little hocked he was, but so honestly shown; and then there were in those polished wood loose boxes other celebrities and other cockerels of 1875, which only wanted a few weeks more to get them over the moult. We were much struck by everything, and congratulate Mrs. Christy on her manager who, single-handed, does everything down to keeping the turf edgings trim, and picking off the buds of the "golden feather," which edged the path to the poultry-room door.

We saw, too, some good Sultans and a Cuckoo Sultan, which is a bird we had never seen before, bred too as it was from the Whites; but these are only looked upon as playthings and not as the real fancy. We could but think it a pity that Mrs. Christy did not keep another breed, she has such ample space, and the shade is so adapted for light or white-coloured birds. We hardly think that so far Mrs. Christy has had the success her birds deserve, but she has now thoroughly mastered the subject, and we would as soon allow her to select Buff Cochins for us as any other fancier; so those who are foolish enough to try and palm off bad stock upon her will find themselves worsted, but her birds are now so good and numerous that we should imagine that she will not need fresh blood for a long time to come.

Falconers is about a mile from Edenbridge station on the South-Eastern Railway, and those who want to see a model establishment perfect in itself and scientifically managed cannot do better than obtain permission from Mrs. Christy to see her yards and runs, for they are places to be remembered and even to be marvelled at.—W.

A MEETING OF THE POULTRY AND PIGEON FANCIERS OF NORTH-UMBERLAND AND DURHAM will be held on Friday, December 1st, at two o'clock P.M., in the Clock room, Town Hall, Newcastle-on-Tyne (entrance the door below the show), to form an Association for the furtherance of their mutual interests.

### THE BIRMINGHAM CATTLE AND POULTRY SHOW.

We have great pleasure in stating that the Exhibition of fat cattle, sheep, pigs, roots, corn, and poultry in Bingley Hall on the 13th, 14th, 15th, 16th, and 18th of December next, will be by far the largest ever held in that building. The principal increase will be in cattle, poultry, and Pigeons, and this must be very gratifying to the Council, as it shows they were guided by a wise policy in the changes which were made in the regulations for the current year. We refer especially to the fixing of the Show later than that of the Smithfield Club, and receiving stock which had been exhibited there; and also to the alterations in the poultry and Pigeon department, whereby non-members can exhibit upon payment of 8s. per pen. So far the innovations have been crowned with complete success, but it remains to be seen whether the days fixed upon will be as advantageous as those of former years. The ingenuity of the Council and the Secretary (Mr. J. B. Lythall) have been taxed to the utmost to find accommodation for the large increase in the entries, and

the space usually allotted to the implement department has been materially encroached upon. Many of the schedules of implement exhibitors have had to be returned to them, and the others have been confined to the smallest possible space. The following is the number of entries for the present year, together with a comparative statement of the four previous years:—

	1872.	1873.	1874.	1875.	1876.
Cattle.....	133	135	152	119	204
Sheep.....	96	89	69	72	105
Pigs.....	63	60	59	41	66
Corn.....	53	27	48	22	231
Roots.....	181	278	167	182	231
Poultry.....	1,996	1,850	2,103	1,950	2,032
Pigeons.....	881	491	975	541	669

Total ..... 2,911 .. 2,925 .. 2,972 .. 2,927 .. 3,297

—(Midland Counties Herald.)

### SWINDON POULTRY SHOW.

THIS Exhibition has wonderfully increased in size and quality, and we can well believe that its able and energetic Committee have it in their power to make a great county show. The Show on November 24th and 25th was prettily arranged, and the Exhibition Hall was well lighted and lofty. The Secretary was unable to attend on the first day from a family bereavement, but he left an excellent substitute in his successor.

**Dorkings**, Coloured, were wonderfully good, the first Peterborough cock with a fine hen winning first and the second champion cup. Second and third also were good birds, the cockerel in the latter being excellent in shape. 8 (Salter) a very promising pair of chickens. Buff *Cochins* were of much merit, and the first-and-cup hen were very superior. The second-prize pen contained a good cockerel. In the next class old Partridges won first, the hen very good; capital Whites second, and Whites again third, an adult hen and a cockerel. In Dark *Brahmas* we much admired the first hen, she was good all round; while second went to good birds too, the hen prettily marked and well feathered. Lights were good, chickens of fine quality being first. The *Minorcas* we did not think so much of. Whites won first. *Spanish* were a fair lot, a cockerel with a good face and comb being first with a very neat pullet. The *Polands* were very good, and by the instrumentality of Mr. Burrell two classes had been given them. They mustered a score of pens, in which all colours were represented. Golds were first and Blacks second in both classes, while the thirds went in adults to Blacks and in chickens to Golds. 80 (Hinton), very good Silvers, and 81 (Silvester), excellent Golds. 96 (Burrell), good Black chickens. *Houdans* were very good, the first well marked and large. 109 (Pearce), good birds, especially in combs, but not crested enough. A dozen pens of *Creves* put in an appearance. A large pen of adults won first-and-cup. In the second pen we greatly admired the shape of the hen. *Game* were fair classes, the quantity exceeding quality. The first Brown Red cock had good carriage and was in fair colour. Second also a smart cockerel and pullet. In the next class Duckwings won first, the hen good in colour and showy. *Hamburgs* made very fair classes. We thought the Golden-spangled and the Golden-pencilled the best. The latter class was particularly good in its winners. *Leghorns* did not muster very strongly, but the three prize pens of Browns were very good, and we noticed a general improvement in ears and carriage of tails. White *Leghorns* were not very grand. It seems difficult to get colour in body feather and ears at the same time. *Game Bantams* mustered thirty-five pens, but the winners only need comment. The first pen of Black Reds were very smart. In the Variety Bantam class Silver-laced were first, and Blacks second and third. Mrs. Crook had a fair pen of White-booted, but out of condition rather. The Variety class contained six pens, where Malays won the prizes; all of good quality and feather. 257 (Burd) were entered as "Longshins," but they would have well passed for fair Black *Cochins*.

The Aylesbury Ducks and Rouens were both excellent, the latter, perhaps, more especially. In the Variety Duck class very good East Indians won first—in fact, as good a pen as we have seen for a long time. *Geese* and *Turkeys* both came well to the front. We noticed a very good pen of Whites of the latter breed in pen 425 (Surmon).

*Pigeons* were very excellent, and Mr. Jones made a good selection for his awards. He gave the cup for best pen to Mr. Baker's Carrier cock, and the cup for second best to Mr. Salter's beautiful Silver English Owl. The Fantails were good, and so were the Turbits; in the latter class a bird of deep black colour won. Dragons made two strong classes—namely, twenty-five Blue or Silvers, and thirty of any other variety. Mr. Woods sent his cargo from Mansfield and secured many prizes, but Mr. Lush had his White in a good third in its class. Magpies were a pleasing class between the two Oxford fanciers, and the "Eggs" one came off the best, the prizes going to a Black, a Yellow, and a red, all in good feather and condition. Jacobins made a large class of good quality, but the prizes went to Mr.

Baker, and others had only to be "highly condemned," but among them Mr. Maynard's Red was a beautiful bird, good in colour and chain. In the Variety class a capital Trumpeter of the so-called new type won first. Mr. P. H. Jones judged the Pigeons, while Mr. John Martin awarded the poultry prizes, giving much satisfaction to all present, and using that precision which so marks his awards. We give the prize list below.

**POULTRY**.—**DORKINGS**.—1, A. Darby. 2, Mrs. Allsopp. 3, W. Wallis, jun. **COCHINS**.—Buff or Cinnamon. 1, H. Tomlinson. 2, A. Darby. 3, Mrs. Allsopp. *who*. Mrs. A. Tindall. Any other variety. 1 and 2, Mrs. A. Tindall. 3, Rev. R. S. Woodgate. **BRAHMAS**.—Dark. 1, Newnham & Manby. 2, E. Pritchard. 3, Morris & Cameron. **COTTAGERS**.—2, E. Watts. *Light*. 1, T. A. Dean. 2, Mrs. A. Tindall. 3, A. Iva. **COTTAGERS**.—1, W. Chivers. 2 and 3, J. W. Le. **MINORCAS**.—1, H. Elston. 2 and 3, J. G. Rowe. **SPANISH**.—1, J. W. Elston. 2, Mrs. Allsopp. 3, J. Baker. **COTTAGERS**.—1, T. Osman. 2, H. Wallis. **POLANDS**.—1, E. Burrell. 2, A. Darby. 3, T. Norwood. *who*. J. Hinton. A. & W. H. Silvester. **CHICKENS**.—1, A. & W. H. Silvester. 2, T. Norwood. 3 and *who*. E. Burrell. **HOUDANS**.—1, Mrs. F. St. John. 2, S. W. Thomas. 3, E. J. Blair. **COTTAGERS**.—1 and 2, J. Watts. **CREVE-CEURES**.—1 and Cup. S. A. Vickery. 2 and 3, F. Burrell. *who*. M. H. Start. **COTTAGERS**.—1, F. W. Wilkins. 2, J. T. Jarman. **GAME**.—Black breasted Red. 1, Rev. A. Cruwys. 2, F. Ward. 3, E. Woodford. **COTTAGERS**.—1 and 2, J. T. Mew. *Brown-breasted Red*. 1 and 2, F. Ward. 3, R. Swift. Any other variety. 1, J. T. Browne. 2, A. Stradling. 3, E. Winwood. **HAMBURGERS**.—Golden-spangled. 1, C. May. 2, J. Calcutt. 3, T. Pope. **COTTAGERS**.—1, A. Simpson. Silver-spangled. 1, T. Pope. 2, F. Edwards. 3, T. Patterson. **COTTAGERS**.—1, T. Patterson. 2, J. Taylor. *Golden-pencilled*. 1, T. K. Castell. 2, A. Livings. 3, O. E. Cresswell. **COTTAGERS**.—3, T. Pope. *Silver-pencilled*. 1, Dr. E. Snell. 2, J. Gledhill. 3, E. Waugh. Any other variety. 1, G. H. Massey. 2, J. W. Kelleway. 3, Stott & Booth. **COTTAGERS**.—1, W. Chapman. 2, T. B. Watson. **LEGHORNS**.—Brown. 1, F. L. Green. 2 and 3, A. Kitchen. *White*. 1, E. C. Seaman. 2, Mrs. W. P. Hughes. 3, E. Dell. **BANTAMS**.—Game. 1, W. Adams. 2, R. Swift. 3, E. Winwood. *who*. J. Forward. 1, J. Merrett. Any other variety. 1, G. Holloway, jun. 2, K. H. Ashton. 3, F. C. Davis. ANY OTHER DISTINCT VARIETY. 1, R. Moore. 2, J. Hinton. **SELLING CLASSES**. *Cocks*.—Price not to exceed £1 10s. 1, Miss J. Milward. 2, Morris and Cameron. 3, E. Glanville. *Cottagers*.—1, 2, and 3, W. Phillips. *Hens*.—Price not to exceed £2. 1, F. Glanville. 2, W. E. Smith. 3, H. Haddrell. *Cottagers*.—1, A. Shepherd. 2, T. Latter. *Cocks*.—Price not to exceed £3. 1, W. E. Smith. 2, S. Walton. 3, J. Hinton. *Hens*.—Price not to exceed £4. 1, Mrs. Allsopp. 2, Capt. F. G. Coleridge. 3, Miss J. Milward. **COTTAGERS**.—1, 2, and 3, J. Lee. **DUCKS**.—Aylesbury. 1, Mrs. A. Tindall. 2, Dr. E. Snell. 3, S. R. Harris. *Cottagers*.—3, J. Rees. *Rouen*. 1, Dr. E. Snell. 2, S. Salter. 3, Dr. E. H. J. Baily. *Cottagers*.—1, T. Osman. Any other variety. 1, G. S. Sainsbury. 2, W. A. & J. H. Silvester. **COTTAGERS**.—1, J. H. Haddrell. 1, J. Shadleton. 2, Mrs. H. J. Bailey. 3, Dr. E. Snell. **COTTAGERS**.—1, W. Smith. **TURKEYS**.—1, Mrs. H. J. Bailey. 2, F. Ward. 3, Rev. E. Withington. **PIGEONS**.—**CARRIERS**.—Cock. 1 and J. Baker. 3, S. Harding. *who*. H. M. Maynard. **COTTAGERS**.—1, A. Simpson. 2, F. Rosier. E. Jones. *Hen*. 1 and 2, E. Burton. 3, H. M. Maynard. **COTTAGERS**.—1, F. S. Dean. 2, E. Jones. 3, A. Simpson. **TUMBLERS**.—Short-faced. 1, 2, and 3, J. Baker. **COTTAGERS**.—2, C. Sainsbury. Any other variety. 1, J. Baker. 2, C. Saunders. 3, J. Baker. **COTTAGERS**.—1, J. Wood. 2 and 3, T. B. Watson. **FOUTRES**.—1, 2, and 3, J. Baker. *who*. A. P. Byford. **DRAGONS**.—Blue or Silver. 1, W. G. Flanagan. 2 and 3, R. Woods. **COTTAGERS**.—1, W. Phillips. 2, W. Affleck. 3, F. S. Dean. Any other variety. 1 and 2, R. Woods. 3, J. Lush, jun. **COTTAGERS**.—1 and 3, E. Sadler. 2, J. Ireland. **OWLS**.—English. 1 and 2, S. Salter. 3, J. Salter. *who*. J. Barnes. **FOREIGN**.—1, J. J. Sparrow. 2 and 3, J. Baker. *who*. T. Chambers. **TURBITS**.—1 and 2, S. Salter. 3, G. Webster. **COTTAGERS**.—1, 2, and 3, A. Simpson. **BARBS**.—1, M. Cardley. 2 and 3, H. Maynard. *who*. J. Baker. **JACOBINS**.—1, 2, and 3, J. Baker. **FANTAILS**.—1 and 2, H. M. Maynard. 3, J. F. Loversidge. **MAGPIES**.—1 and 2, S. Salter. 3, F. P. Bully. *who*. F. P. Bully. S. Salter. **COTTAGERS**.—2, E. Jones. **ANTWERPS**.—Short-faced. 1, J. Kendrick, jun. 2, G. Colson. 3, H. Yardley. *who*. J. Chandler. **COTTAGERS**.—1, J. E. Cottell. 2 and 3, W. Hopkins, jun. Any other variety. 1, S. Salter. 2, R. Frost, jun. 3, J. Watts. **COTTAGERS**.—1, F. Affleck. 2 and 3, E. W. Phillips. **HOMING**.—1 and 2, J. L. Burgess. 3, H. Stanhope. **LOCAL CLASS**.—1 and 2, W. Phillips. ANY OTHER VARIETY. 1, J. Baker. 2, H. Yardley. 3, F. E. Bully. **COTTAGERS**.—1 and 3, F. Saunders. 2, E. J. Cole. **SELLING CLASS—PAIRS**.—Price not to exceed £1 10s. 1, J. Baker. 2 and 3, S. Salter. **COTTAGERS**.—1, A. Simpson. 2, T. Patterson. 3, J. Wood. Price not to exceed £3. 1, C. Parson. 2, G. Packham. 3, E. Burton. *who*. H. S. Hansford. S. Salter. ANY VARIETY.—Young Local Birds. 1, J. Sykes. 2, F. Affleck. 3 and 4, A. Simpson. **CAGE BIRDS**.—**CANARIES**.—Belgians. 1 and Cup. Mrs. W. C. Drummond. 2, Mrs. A. G. Jones. 3, J. A. Slep. 1, J. A. Slep. 2, J. A. Slep. 3, J. A. Slep. **C. Drummond**. **COTTAGERS**.—1 and 2, T. B. Watson. 3, T. E. Brittain. *Yellow or Yellow-marked*. 1, J. A. Slep. 2, Miss S. Northcott. 3, C. J. Salt. **COTTAGERS**.—1, Mrs. Phillips. 2, E. Atcherley. 3, T. F. Britain. **GOLDFINCH**.—1, G. Bown. 2, J. Daniels. 3, J. Hopkins. **COTTAGERS**.—1 and 3, S. Cox. ANY OTHER VARIETY. 1 and 3, Mrs. W. C. Drummond. 2, J. Johnson. **COTTAGERS**.—1, C. Hewitt. 2, E. Day. 3, W. Fisher. **LOBBITS**.—Lords. 1, J. Cranley. 2, A. Archer. 3, C. King. *who*. E. Pepper. **COTTAGERS**.—1, E. Britain. 2, J. Ireland. *who*. J. Ireland. 2, T. Latter. **HMA LAYAN**. 1, A. W. Whitehouse. 2 and 3, H. E. Gilbert. **COTTAGERS**.—1, J. Ireland. 2, Master H. Smith. 3, Master A. Hartley. **SILVER-GRAY**.—1, Hon. F. P. Bouverie. 2 and *who*. F. J. R. Nunn. 3, J. Gardner. ANY OTHER VARIETY. 1, Mrs. L. Ainsworth. 2, H. Suggitt. 3, Miss E. Tateon. *who*. R. Bright. H. Batten. **COTTAGERS**.—1, W. Cox. 2, H. Batten. 3, C. Reynolds. **CATS**.—**TORTOISESHELL**. 1, Mrs. Scamman. 2, J. Duck. 3, Mrs. L. U. Gill. *who*. Master A. G. Jones. **COTTAGERS**.—1 and 2, Master A. G. Jones. 3, Miss A. Clark. **TABBY**. 1, E. Baxter. 2, Mrs. Turner. 3, R. Kitchen. *who*. C. King. A. Phelps. **COTTAGERS**.—2, A. Simpson. 3, P. Hughes. **BLACK**. 1, C. King. 2, H. Chapman. 3, E. Bowker. **LONG-HAIRED**. 1 and Cup. T. Whiteman. 3, G. Owen. 3, Mrs. L. U. Gill. *who*. Mrs. H. Freke. Mrs. M. G. Sprague. 2, **COTTAGERS**.—1, J. C. Rogers. 2, Mrs. Trinder. 3, T. Morse. ANY OTHER VARIETY OR COLOUR. 1, J. Bott. 2, C. Chamber. 3, S. Hickman. **COTTAGERS**.—1, J. A. Stone. 2, W. Eatwell. 3, W. C. Fates.

### IPSWICH POULTRY AND PIGEON SHOW.

THIS was held on November 23rd in the Corn Exchange. The birds were exhibited in wooden pens belonging to the Society, which rather obstructed the light. Straw was used for the bottom of the pens, which in one or two instances hid the feet of a few duck-footed birds. The Judge was Mr. P. H. Jones of London.

**Dorkings** (Coloured), cocks.—First and second good birds. No. 4 we think should have had a notice. **Dorkings** (hens, any colour).—First, second, and third well placed. **Cochins** (Cinnamon or Buff), cocks.—First not, in our opinion, half as good as No. 29, which took second prize. **Cochins**, any other colour, properly placed. The first grand bird, extremely well feathered. **Cochins** (hens, any colour).—First and second good. **Brahmas** (cocks, Dark).—First (No. 61) a good-coloured bird, but comb



twisted and large. No. 63 we preferred to any in the class. Brahmas (Light). Cocks.—First, second, and third good birds, but we preferred No. 69 to the third. Brahmas (hens, any colour).—No. 82 (highly commended) we should have placed second if not first, but it is difficult to judge when Lights and Darks are mixed. *French*.—Classes well filled for a local show. No. 92 should have had a card. *Game* (cocks, any colour) a poor class. First not awarded; second a smart Duckwing. *Game* (hens, any colour).—First bad colour, and fantailed; third superior. *Hamburghs* (Gold or Silver-pencilled). Cocks.—First a smart bird, but black tail; second quite equal to first. No. 127 a good bird, and worthy of a card. *Hamburghs* (Gold or Silver-spangled). Cocks.—First good, second Silver, lobes discoloured. No. 137 a fair bird. *Hamburghs* (Black, cocks).—We should have placed the second first, and first second, the latter having a good comb, and being a much more stylish bird. *Hamburghs* (hens, any colour).—First a splendid bird in good condition, but we should have preferred the highly commended (No. 162) to either the second or third.

*Ducks and Drakes* Aylesbury or Rouen).—First a good pen. Selling class (cocks or drakes).—First a good bird; could have taken a prize in the open class. Selling class (hens or Ducks).—First only second-rate; second not worthy a card; third best in the class.

*Game Bantams* (cocks).—First a good Black Red; second good, but out of condition. *Bantams* (Black or White) a poor class. *Bantams* (hens, any variety).—First Silver Sebright; second Black Red, much better in the class; third Gold Sebright, bad tail. We would here mention the inconsistency of showing *Game Bantams* with Sebrights, &c.

The *Pigeons*, though not numerous, were pretty good; the winners, as a rule, very fair birds.

**POULTRY.—DORKINGS.**—Coloured.—Cocks.—1 and 2, Henry Lingwood. 3, J. Everett. Any colour.—Hens.—1, Rev. E. Bartrum. 2 and 3, Henry Lingwood. COCHINS.—Cinnamon or Buff.—Cocks.—1, W. Smart. 2, Lady Gwydyr. 3 and *vhc*, Henry Lingwood. Any other colour.—Cocks.—1 and 2, Lady Gwydyr. 3, G. B. C. Breeze. Any colour.—Hens.—1 and 2, Lady Gwydyr. 3, G. B. C. Breeze. *BRAHMAS*.—Dark.—Cocks.—1, G. S. Pearson. 2, Lady Gwydyr. 3, J. Levett. Light.—Cocks.—1, S. Reid. 2, Lady Gwydyr. 3, H. Mitchell. Any colour.—Hens.—1, G. B. C. Breeze. 2, G. S. Pearson. 3, G. B. C. Breeze. *FOWLS*.—Cocks.—1, Dr. E. Waller. 2, M. H. Start. 3, E. Burrell. Hens.—1, A. W. Darley. 2, E. Burrell. 3, M. H. Start. *GAME*.—Cocks.—2, A. P. Byford. 3, A. W. Blood. Hens.—1 and 2, T. Doewra. 3, A. P. Byford. *HAMBURGHs*.—Gold or Silver-pencilled.—Cocks.—1, W. K. Tickner. 2, H. R. Platin. 3, T. Fenn. Gold or Silver-spangled.—Cocks.—1, W. K. Tickner. 2, H. R. Platin. 3, J. Everett. Black.—Cocks.—1, Nutman & Wright. 2, W. Clarke. 3, E. Elliott. Any colour.—Hens.—1, W. K. Tickner. 2, H. R. Platin. 3, W. Clarke. *DUCKs*.—Aylesbury or Rouen.—1, Mrs. C. Burners. 2 and 3, J. Everett. Any other variety.—1, Duchess of Hamilton. 2, T. Doewra. 3, W. K. Pratt. **SELLING CLASSES.**—Any variety except *Bantams*, *Cocks* or *Drakes*.—1, S. Levett. 2, J. Everett. 3, Mrs. C. Burners. *Hens* or *Ducks*.—1, W. Clarke. 2, S. Felgate. 3, Lady Gwydyr. *Bantams*.—1, W. Holmes. 2, L. C. Morrell. 3, Mrs. J. Longe. *BANTAMS*.—*Game*.—Cocks.—1 and 3, W. Jay. 2, F. Bennett. 3, W. Jay. Black or White.—Cocks.—1, L. C. Morrell. 2, H. J. Ludlow. Any variety.—Hens.—1 and 3, W. Holmes. 2, W. Jay.

**PIGEONS.**—*CARRIERS*.—Single.—1 and 2, H. M. Maynard. 3, H. Yardley. *POUTERS*.—Single.—1 and 2, A. P. Byford. *BARBS*.—Single.—1, H. M. Maynard. 2, H. Yardley. *vhc*, A. P. Byford. *FANTAILS*.—Single.—1 and 2, J. F. Lovelidge. *TAUPETERS*.—Single.—1, F. Joy. 2, W. V. Lodge. *DRAGONS*.—Single.—1 and 2, W. Smith. *ANTWERPs*.—Single.—1, H. W. Weaving. 2, S. Birchenall. *ANY OTHER VARIETY*.—Single.—1, H. Yardley. 2, T. Fenn. **SELLING CLASSES.**—Price not to exceed 40s.—Pair.—1, J. R. Bailey. 2, A. P. Byford. *vhc*, F. Green. Price not to exceed 3s.—Single.—1, T. Roper. 2, A. P. Byford.

### CHIPPENHAM POULTRY SHOW.

This annual Wiltshire gathering was held on the 24th inst., and was a success as far as regards visitors, though the entries were small. This, probably, is to be accounted for by the fact that Swindon, only a little way off, also had its poultry show on the same day, where the classification was better and the prizes more liberal. We were sorry to find only three pens of *Dorkings* at Chippenham, but the first-prize pen contained a pair of good-coloured birds, and which would not have disgraced any show. *Cochins* were better represented, a good pen of Partridge chickens coming in for premier honours, and almost equally good adult Whites second. In *Brahmas* a fair pen of Darks were first and Lights second, the latter in good condition and large. *Polands* again made a small class, but the first and second Silvers were very good and well crested. They were entered at very low prices, and afforded a good bargain to any of the many yeomen's wives who were there, and who might be taken with the "fever." *Game* were excellent—far above the average of local shows, the winning birds being well shown and of much merit. *Game Bantams*, too, were good, and the winning cockerel was very smart in head and carriage. There were only two pens of *Spanish*; the Bristol pair were an even pair of birds all round. The Variety Bantam class was interesting, and the Blacks were very good indeed. The Variety class was a large one and the quality excellent. A very good pen of Malays came in first. They were in hard feather and well standing in their pens. We noticed, too, a good pen of *Silbies*. Cross-breeds had a class, but it was not well responded to, and only five pens appeared. The *Geese* and *Turkeys* were very good, the first-prize pen of the former being as good as we have seen for a long time. *Rouen Ducks* were capital, and so were *Aylesburys*. The latter first-prize pen were good in bills, but not very large. In the Variety Duck class a lustrous pen of East Indians

took first, and a pair nearly as good belonging to the same owner second. A sweepstake for the best *Game* cock finished the catalogue, where the Society added 20s. to the entrance fees, and the whole was to be divided into three prizes. Only three pens were entered, but the winner was a good Red, stylish in shape with fine carriage. We give the awards below. Mr. Hewitt judged, and we believe all approved of his awards.

**POULTRY.—DORKINGS.**—1, Miss J. Milward. 2, G. Hanks. *SPANISH*.—1, Mrs. Tonkin. 2, E. Winwood. *GAME*.—Black-breasted and other Reds.—1, F. Warde. 2, W. H. Stagg. Any other variety.—1 and 2, F. Bailly. *COCHINS*.—1, H. Haddrell. 2, Mrs. J. T. Holmes. *BRAHMAS*.—1, Morris & Cameron. 2, Mrs. J. T. Holmes. *HAMBURGHs*.—Gold or Silver-pencilled.—1, H. H. Thompson. 2, J. T. Orledge. Gold or Silver-spangled.—1, T. Reeves. 2, Rev. R. M. Ashe. *POLANDs*.—1 and 2, J. Hinton. *BANTAMS*.—*Game*.—1, E. C. Phillips. 2, J. Andrews. Any other variety.—1, Morris & Cameron. 2, Mrs. J. T. Holmes. *vhc*, R. Wignfield. *ANY OTHER DISTINCT BREED*.—1, J. Hinton. 2, S. Spinke. *CROSS BREEDs*.—1, Rev. N. Ridley. 2, J. S. Maggs. *TURKEYs*.—1, F. Warde. 2 and *vhc*, Mrs. G. B. Elliott. *GEESs*.—1, G. Hanks. 2, A. M. Murphy. *DUCKs*.—*Rouen*.—1, F. Warde. 2, Miss J. Fennell. *Aylesbury*.—1, J. Lewis. 2, W. Kent. Any other variety.—1 and 2, G. S. Salisbury. *vhc*, W. R. Rootes. **SWEEPSTAKES FOR THE BEST GAME COCK**.—1 and 3, W. H. Stagg. 2, J. T. Browne.

### PIGEON COTE.

The front of the Pigeon room, or cote, should have a south-west aspect; and if a room be selected for the purpose, it is usual to break a hole in the roof of the building for the passage of the Pigeons, which can be closed at convenience. A platform is laid by a carpenter at the entrance for the Pigeons to alight and perch upon, with some kind of defence against strange cats, which will so often depopulate a whole dovecote.

The platform should be painted white, and renewed as the paint wears off, white being a favourite colour with Pigeons, and also most conspicuous as a mark to enable them to find their home. The boxes also should be so coloured and renewed as necessary, for which purpose lime and water will be sufficient. Cleanliness is one of the first and most important considerations; the want of it in a dovecote will soon render the place a nuisance not to be approached, and the birds both old and young will be so covered with vermin, and besmeared with their own excrement, that they can enjoy no health or comfort, and mortality is often so induced. Ours were cleaned daily, thoroughly once a week; a tub standing at hand for the reception of the dung, the floor covered with sifted gravel, often renewed.

Pigeons are exceedingly fond of water, and, having a prescience of rain, will wait its coming until late in the evening, upon the house-top, spreading their wings to receive the refreshing shower. When they are confined in a room they should be allowed a wide pan of water, to be often renewed as a bath, which cools, refreshes, and assists them to keep their bodies clear of vermin. In the attendance upon Pigeons caution is necessary with respect to their fighting, to which they are more prone than might be expected, often to the destruction of eggs or young, or driving the weakest away.

The common barrel dovecote needs no description, at the same time is adapted to every situation in which it is desirable to keep Pigeons for ordinary use. To return to the room or loft; the shelves should be placed sufficiently high for security against vermin, a small ladder being a necessary appendage.

The usual breadth of the shelves is about 20 inches, with the allowance of 18 between shelf and shelf, which will be sufficient not to incommodate the tallest Pigeons.

Partitions between the shelves may be fixed at the distance of about 3 feet, making a blind by a board nailed against the front of each partition, whence there will be two nests in the compass of every 3 feet, so that the Pigeons will sit in privacy, and not liable to be disturbed. Or a partition may be fixed between each nest—a good plan, which prevents the young from running to the hen sitting over fresh eggs, and perhaps occasionally to addle them; for when the young are about a fortnight or three weeks old, a good hen will leave them to the care of the cock and lay again.

Some prefer breeding holes entirely open in front, for the greater convenience in cleaning the nests; but it is from those that the squabs are likely to fall, hence a step of sufficient height is preferable. The tame Pigeon seldom taking the trouble to make a nest, it is better to give her one of hay, which prevents the eggs from rolling; or a straw basket, or unglazed earthen pan, may be placed in every nest, apportioned to the size of the Pigeons you breed.

A pan of 3 inches high, 8 inches over the top, and sloping to the bottom like a basin, will be of sufficient size for a Tumbler or a small Pigeon, whilst one of double those dimensions will be required for a large Runt. A brick should always be placed in contiguity to the pan, to enable the cock and hen to alight with greater safety upon the eggs. The Pigeon trap on the house-top is the well-known contrivance of those London rascals, who lie in wait, as has been said, to entrap the property of others. A trap of another description, and for a very different purpose, is sometimes used; it is an area, on the outside of a building, for the purpose of confining in the air valuable breeds of Pigeons which cannot be trusted to flight. Some are erected to the extent of 20 yards long and 10 yards wide, with shelves on every

side for the perching of the Pigeons; thus they are constantly exercised in the air, retiring at their pleasure to the room or loft within.—(*American Fanciers' Journal.*)

### MOVEABLE VERSUS FIXED COMBS.

Your esteemed correspondent Mr. J. E. Briscoe recently gave an interesting account of how he had reaped the large harvest of 144 lbs. finest super honey from one Stewarton colony this last season, and drew a comparison of the yield from such frame hive with moveable combs, to the fixity and heterogeneous contents of large straw skeps advocated by Mr. Pettigrew as the *ne plus ultra* for successful bee-keeping. The soundness of Mr. Briscoe's hypothesis has been called in question by Mr. Pettigrew, who has repeatedly referred to me, and I desire to reply.

I would premise at the outset that Mr. Pettigrew's persistent efforts to discover the usual sulphur-pit termination of the common skep system is worthy of all praise. That gentleman says he has never condemned the Stewarton hive; possibly not, but what detracts much from the charm of his interesting communications is a tendency, if I may use the expression, of inferentially disparaging what he has had little or no experience of. The frame-hive question being a case in point. The large harvest of 1868 is probably what Mr. Pettigrew refers to as that of 1864, when in the former capital season I reaped, as detailed in this Journal at the time, from one Stewarton colony ten octagon supers weighing net somewhere close on 200 lbs. This season from two such old colonies and two prime swarms hived singly, and thanks to "mobilism," into empty-combed frames, I harvested first four, then nine, last eight, in all twenty-one octagon supers free from one cell of pollen or yet brood. The old colonies were quite independent of all that early summer feeding of which Mr. Pettigrew tried with his straw hives, and neither they nor yet the swarms had the slightest extraneous aid whatever in accomplishing their task, saving narrow strips of embossed wax sheets to ensure straight work and plenty of warmth. The last four supers I may add were not sealed out; and I subsequently regretted that, owing to the season coming on us all so much of a surprise, and much of the honey having been given away in presents, I cannot give the weights with so much exactness as did Mr. Briscoe, saving of what went to market, over 2 cwt. finest super honey. The best colony of 1876 gave nine supers against the ten of 1868.

It is manifestly even more unfair to draw a comparison of the capital harvest of 86 lbs. obtained by Mr. Fox from a straw hive in Devonshire, and the 30 lbs. obtained by Mr. Briscoe with his Stewarton in Staffordshire in the poor season of 1875, as it is to contrast my harvest with that of the Carlisle people. These figures speak as to district, not hives. Let the bee-masters with their hives change places, and see the different results. Rather put it as a rule-of-three question. If a straw skep yields 86 lbs. in south Devon, what would a Stewarton colony there give? To fairly compare results, one hive with another, it is obvious they must occupy a common field. Mr. Pettigrew will say this is mere advocacy, he wants "facts;" I have pleasure in adducing them.

In the same poor season of 1875 there stood in my apiary on stand No. 10, a swarm of the preceding year, hived in two 7-inch Stewarton boxes, and side by side on No. 11 a swarm of the same year, located in a roomy straw skep, both possessing queens of 1874, each having an overflowing population, and being so well matched induced me to prevent No. 11 from swarming and test the two together as depriving hives. Both got full and began to build-out at the same time. The Stewarton was nadired with a 4-inch octagon eke, and supered as required; the straw hive was heightened also with first, a 4-inch circular eke, and then another same depth. About the same time No. 10 took to the supers. The only top I could get to sit conveniently on straw was a large Abingdon glass, and with a little frame guide comb induced the bees to take possession at once, and keeping it well covered-up with woollen, comb-building made rapid progress, and at the close of the season the harvest gleaned by the two was as follows:—

No. 10. Stewarton ....	1 octagon super, gross	23½ lbs.
" " ....	1 " " "	17½ "
" " ....	1 " " "	14½ "
" " ....	1 " " "	12½ "
	4 " "	68

No. 11. Straw skep .... 1 Abingdon glass comb  
without stalk and not sealed-out.... 21½ lbs. gross.

I expected the shortcoming of super honey from straw would be greatly made up by supposed greater weight in the skep, but just after removal of supers I chanced to receive a visit from the Vice-President and then Secretary of the Caledonian Apian Society, and on showing them round my apiary pointed out the test hives, reporting the harvest as above, when it was proposed to estimate their then respective weights, and the former gentleman kindly undertook the duty, and to my surprise

pronounced the straw hive light and in want of immediate feeding. He then turned his attention to the Stewarton colony, and drawing it along the board, in his endeavour to raise the heavy weight induced such a sortie from the triple entrance, the Italians using their stiletto with sufficient vigour to put us all to the right-about, and my good friend the President coming in for so terrible a share of the punishment, that should these lines catch his eye, I have no doubt he still preserves a lively recollection of my competitive hives. Mr. Pettigrew may say he advocates the swarming, not the depriving, system. Would that have bettered the matter? Suppose No. 11 had thrown a couple of swarms there would have been no honey at all harvested before even the accustomed autumnal feeding time came round. Such would have shared the fate of all swarms in our neighbourhood, uncared for and been dead, so exceedingly bad was the season of 1875.

When I perused Mr. Pettigrew's statement to the following effect, "In Glasgow, where most of the octagon boxes of comb from the Stewarton hives are sold, there is a demand for twenty times more run honey than there is for comb. If Mr. Briscoe lived in the neighbourhood of Glasgow, the best market in the world for run honey, would he condemn the hives and system that helps greatly to meet the demand?" From passing familiarity with the appearance of the Glasgow honey warehouses, I felt that that gentleman had been most egregiously misinformed; and as Mr. Briscoe had not the same opportunity, from nearness of residence felt it incumbent on me to collect a few "facts."

My first visit was to one of the oldest honey warehouses. I found from the manager that when they had more of a monopoly there, turnover would be about three hundred boxes of comb, against twenty to thirty pints of run honey. Still they did a large trade in comb, a little in French run honey, Scotch run honey being little asked for. The next party called upon does a considerable wholesale as well as retail business. Estimated his sales would be about two supers (38 lbs.) comb against one pint (5 lbs.) of run honey. He had paid the grower on an average for the last five years 1s. 6d. per lb. for comb and 10d. for run honey. He did nothing in foreign. My third call elicited a capital sale for honeycomb; run honey they did little in, saving a few glass bottles finest comb run by themselves, west-end ladies being very fastidious about the cleanliness of run honey, preferring seeing it clear through glass. The fourth merchant told me the figures in the Journal should have been reversed. He sold a little run honey in families for colds, but for table use in Glasgow honeycomb was the correct thing. So much for statistics, which require no comment. No doubt "in the second city of the empire" a large quantity of run honey must of necessity find its way into other channels, such as the confectioners and drug stores; but I am informed the cheap foreign honey cask meets that demand.

As Mr. Pettigrew very justly remarks, "It is an important question, and cannot be too fully discussed." But as I have already encroached too much on valuable space with details, must defer till next week a more general view of the question at issue.—A RENFREWSHIRE BEE-KEEPER.

### QUEEN BEES.

The concluding paragraph in "B. & W.'s" article of November 16th, on the exchange of queens, where he says, "The two queens may have met, and the Italian proved herself the stronger," leads me to pen these few lines to express a doubt whether such an occurrence is at all necessary, or even likely to occur, in order that the intruding queen should suffer the penalty of death. The more I learn about bees the more conviction forces itself on me, that many statements recorded and repeated again and again about them are fallacious. I do not accuse observers of wilfully deceiving, but some new or wonderful occurrence is seen, or believed to be seen, when it is at once recorded as a habit of the bee. Mrs. Tupper has said "bees do nothing invariably;" nothing could be more true, and sometimes they do things which at the time are to us wholly unaccountable. To exchange a queen is a common operation with me, and my experience is that, as a rule, to release one six or seven hours after caging would be found a most dangerous proceeding. Last month, when the weather was very cold and likely to continue so, I risked the introduction of two queens without any caging simply because I did not want the stocks chilled. The first stock, which had been queenless some time, killed their new sovereign; the second, where I merely took out their own queen and dropped the other in her place, accepted her all right, and she lives still. Now, had my opinion been asked as to what would occur I should just have reversed the events.

The introduction of a strange queen into a hive where one already reigns, I do not believe troubles the latter whatever. I have put in scores and find the result as follows:—The first bee which discovers the intruder seizes her by the leg or wing and holds on, and then comes another and another until she is covered; still the bees crowd on, holding to one another until a

solid ball as big as a bantam's egg is formed, with the queen in the midst. A vigorous hissing is kept up, and so intent are the bees on their attack that the ball of bees may be taken up into the hand without any fear of stinging. At the Alexandra Palace Bee Show I several times caused the formation of such a bee ball, which was handed round among the spectators from hand to hand. I find the workers rarely sting a strange queen: they will keep her encased until she dies or their fury abates, and then release her. I have known one confined in this manner for a fortnight, when she died; it is certain they must at least sometimes feed the prisoner, for a queen will die of starvation in twelve hours. So eager are the bees to encase a new queen, that if the latter be held by the wings with the thumb and finger, the bees will gather there into a ball. I have said workers rarely sting a queen, but they do sometimes. I have seen almost the first bee that perceived her jump on her back and sting her in an instant, when she would quickly die—not always, however, for twice have I seen a queen stung and the sting left in her, and yet no fatal result occurred.

Remembering the old tale of how the reigning queen would seek out an intruder, some two or three years ago it occurred to me what an easy way it would be to extract the old queen from a skep to substitute a new one if I first caged the latter in the hive. I tried it several times, but in no instance did ever I find the old queen come to my bait. Several times when wishing to preserve a queen for a few days I have caged her in the midst of a populous hive, where she obtained food and warmth. I never found the reigning queen trouble herself, although the cage would be sure to be thickly covered with the excited workers. I am also sceptical as to the invariableness of fighting to the death between queens which meet. If we put two queens under a wineglass, and watch the result, we see them seize each other, wrestle and fight like two gladiators, and sometimes one receives a sting and dies, but more often they separate, again come together for another battle with still a negative result. This is repeated until they get tired of fighting and let each other alone.

Twice this year I came across instances of two queens in a hive, but I do not think in either case they were both fertile. In the first instance, the old queen was evidently worn out. She had bred an inordinate number of drones—no hope of a swarm; yet instinct guided the bees to raise a young queen, which soon took the place of the old one, which I found thrown out of the hive. I once divided a hive by a diaphragm of perforated zinc, filled each half with combs and a swarm, gave entrance to one colony in front, and to the other at the back of the hive. It was no use. One queen went on with her maternal duties, the other was encased by her own bees. I caged and released her several times but in vain, the bees had evidently made up their minds it was *one* hive, and therefore they would not have *two* queens.

—JOHN HUNTER, *Eaton Rise, Ealing.*

### ITALIAN VERSUS BLACK BEES.

This is my third year's experience in bee-keeping at this place. I commenced with eight stocks of Italians. I bought fifty stocks of black bees from different parties and italianised about one-half of them the first season. I put boxes on the hives during buckwheat, and to my surprise the black bees were the first to commence in them, and gave me by far the best yield, though the Italians were the strongest. The next season I put on the boxes early and gave the Italians every advantage, but the blacks were the first to commence, and kept a-head all the season.

This season I commenced with sixty-five stocks, about one-half of them were Italians and hybrids. Commenced boxing during fruit bloom, but the weather was cold and windy. None commenced in boxes till white clover, June 5th. The clover season ended July 5th, and was the best I ever knew while it lasted. My best stock of black bees put up 150 lbs. of white honey in 4-lb. boxes, while the best Italians put up 120 lbs. Several stocks of blacks went from 100 lbs. to 150 lbs. Only one Italian reached 100 lbs., yet the stocks were all strong and in good condition in the spring. After this experience I am forced to the conclusion that as box workers the black bees are the best. Where the extractor is used the Italians are all that is claimed for them. I use the extractor only as a necessity. Box honey is my hobby. Bees have just commenced on buckwheat; the prospect is good for a fine crop.—JOHN VANDERVOEST.—*American Bee Journal.*

### FRAME HIVES VERSUS SKEPS.

Let me assure Mr. Pettigrew that the statement of the Swiss gentleman he quotes, that frame hives are on their trial in Germany or America, is incorrect. It is true as to France, and of Switzerland I know nothing; but in America skeps are now unknown. Some few use boxes, others hollow logs of wood, but I think I may venture to say that all who pursue bee-keeping

there as a trade, and there are many hundreds who do so, use frame hives. One of the leading bee journals lately remarked with surprise that a well-known English firm still exhibited straw hives! In Germany, wherever bee-keeping is pursued largely frame hives are used. My correspondent, Baron Ambrosy of Hungary, sent me a photograph of his apiary, which contained 1290 hives all with frames. I think Mr. Briscoe is quite correct in saying that "all scientific apiarists of Europe and America have adopted some modification of the bar or bar-and-frame hive."—JOHN HUNTER, *Eaton Rise, Ealing.*

### OUR LETTER BOX.

LEGHORNS (*H. J. B.*).—We presume that you mean these varieties of poultry. We never heard of fowls of the name you have written. Leghorns may be managed the same as Silver Hamburgs.

AMATEUR PIGEON CLUB.—"W. S." wishes to know if there is one in the neighbourhood of London formed for the purpose of training and flying Pigeons as the sport is carried on in Belgium.

DRIVING BEES (*T. Jones*).—You will find full directions in our "Bee-keeping for the Many." You can have it free by post if you enclose five postage stamps with your full direction.

GALLON (*W. H. Attwood*).—There are 282 cubic inches in a gallon.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
	Barometer at 53° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
1876.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Nov.											
We. 22	30.265	42.1	41.7	N.E.	46.1	47.2	40.6	48.4	36.1	—	
Th. 23	30.188	39.0	36.6	E.	44.2	40.9	37.1	43.0	37.1	—	
Fr. 24	29.935	40.3	38.6	E.	43.2	42.3	37.3	45.4	37.0	0.256	
Sat. 25	29.480	44.3	44.3	S.E.	43.8	55.0	47.2	61.0	39.7	0.072	
Sun. 26	29.655	44.6	44.0	S.	43.8	52.8	31.9	71.3	30.9	0.178	
Mo. 27	29.377	43.2	47.6	S.	45.0	52.1	45.4	53.0	43.3	0.933	
Tu. 28	29.473	39.0	39.0	W.	45.2	47.4	37.4	73.8	39.3	0.103	
Means.	29.761	42.5	41.5		44.5	43.2	39.1	56.5	36.9	0.992	

### REMARKS.

- 22nd.—Fair, but rather hazy morning; very dull all day, but without rain.  
23rd.—Dull and dark (though without rain) all day; rather cold at night.  
24th.—Dull and dark at 9 A.M., but fine and bright by 10 A.M.; rain at 1 P.M., and showerly after.  
25th.—Rainy forenoon, dry afternoon; fine at night, wind very high for a short time about noon.  
26th.—Fine morning, but heavy shower about noon; damp, though not raining all the rest of the day.  
27th.—Rain in the night; damp, dull, and dark at 7 A.M., and so continued all day.  
28th.—A remarkably fine, bright, pleasant day throughout; lunar halo in evening; rain at night.  
A colder week than the previous one, and very damp.—G. J. SYMONS.

### COVENT GARDEN MARKET.—NOVEMBER 29.

THERE is no improvement in our market this week, all classes of goods having a very slow sale. The supply of Grapes has fallen off, and good samples of late sorts will now fetch better prices. Pines are dull. A fair business in Kent Cobs doing at last week's rates.

### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	6 to 5	Nectarines.....	dozen	0 6 to 0 0
Apricots.....	dozen	0 0 0	Oranges.....	dozen	0 10 0 to 12 0
Chestnuts.....	bushel	0 0 0	Peaches.....	dozen	0 0 0
Currants.....	dozen	0 0 0	Pears, kitchen.....	dozen	1 0 0
Black.....	dozen	0 0 0	Pears, dessert.....	dozen	2 0 0
Figs.....	dozen	0 0 0	Pine Apples.....	dozen	0 0 0
Filberts.....	lb.	0 6 1	Plums.....	dozen	0 0 0
Cobs.....	lb.	0 10 1	Quinces.....	bushel	0 0 0
Gooseberries.....	quart	0 0 0	Raspberries.....	lb.	0 0 0
Grapes, hothouse.....	lb.	1 6 0	Strawberries.....	lb.	0 0 0
Lemons.....	dozen	0 6 10	Walnuts.....	bushel	5 0 0
Melons.....	each	1 0 0	ditto.....	dozen	1 6 2

### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	0 0 to 0 0	Leeks.....	bunch	0 4 to 0 0
Asparagus.....	dozen	0 0 0	Mushrooms.....	pottle	1 6 2
French.....	dozen	0 0 0	Mustard & Cress.....	punnet	0 2 0
Beans, Kidney.....	dozen	1 0 1	Onions.....	bushel	0 0 0
Beet, Red.....	dozen	1 6 3	Pickling.....	quart	0 4 0
Broccoli.....	dozen	0 9 1	Parsley.....	doz. bunches	2 0 0
Brussels Sprouts.....	dozen	0 6 1	Parsnips.....	dozen	0 0 0
Cabbage.....	dozen	1 0 2	Peas.....	quart	0 0 0
Carrots.....	bunch	0 4 0	Potatoes.....	bushel	2 6 4
Capsicums.....	dozen	1 0 2	Kidney.....	dozen	3 0 0
Cauliflower.....	dozen	0 6 0	Radishes.....	doz. bunches	1 0 1
Celery.....	bunch	1 6 2	Rhubarb.....	bunch	0 8 0
Coleworts.....	doz. bunches	2 0 4	Salsify.....	bunch	0 9 1
Cumbers.....	dozen	0 4 0	Scorzonera.....	bunch	1 0 0
Endive.....	dozen	1 0 2	Seakale.....	basket	1 6 0
Fennel.....	bunch	0 3 0	Shallots.....	lb.	0 3 0
Garlic.....	lb.	0 6 0	Spinach.....	bushel	1 6 2
Herbs.....	bunch	0 3 0	Tomatoes.....	sieve	0 0 0
Horseradish.....	bunch	4 0 0	Turnips.....	bunch	0 4 0
Lettuce.....	dozen	0 6 2	Vegetable Marrows.....	dozen	0 0 0

## WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 7-13, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
7	Tu	Royal Society at 8.30 P.M.	48.4	38.5	43.5	7 54	3 49	11 27	0 18	21	8 6	342
8	F		46.9	38.6	40.8	7 55	3 49	morn.	0 30	(	7 40	343
9	S	Royal Botanic Society at 8.45 P.M.	46.7	34.9	40.8	7 57	3 49	0 48	0 42	23	7 13	344
10	Su	2 SUNDAY IN ADVENT.	47.0	32.8	39.9	7 58	3 49	2 6	0 53	24	6 45	345
11	M	Micheliu born, 1697.	46.5	32.6	39.5	7 59	3 49	3 25	1 7	25	6 17	346
12	Tu		48.0	37.0	42.5	8 0	3 49	4 44	1 23	26	5 49	347
13	W	Society of Arts at 8 P.M.	47.5	36.5	42.0	8 1	3 49	6 3	1 44	27	5 20	348

From observations taken near London during forty-three years, the average day temperature of the week is 46.0°; and its night temperature 35.1°.

## INDOOR EARLY WINTER FLOWERS.



**OUTDOOR** supplies of flowers for filling vases are cut off by frost and snow, plants now flowering naturally are not numerous, and forced plants are not yet in beauty. The demand for flowers, instead of decreasing as the days become shorter and duller, increases. Flowers never make their presence felt more than in the dull autumn and early winter months, and at no time in country establishments are they more in request. The shooting and hunting season generally strains the resources of the garden. No wonder that the cultivation of plants with handsome foliage of bright glowing colours should have received an impetus. Ever flower-like in colour, ever beautiful, they are always available for decorative purposes. Yet useful as are their sprays for cutting we must still have flowers. Take a friend's opinion. "All the colours sought for formerly in the flowers of plants must now be looked for in their foliage; and if the present rage for coloured-leaved plants continue it will soon be difficult to find a plant with plain green leaves and showy flowers. Variegated plants have frequently a diseased look—anything but the freshness of Nature's green heightened in effect by her bright glowing flowers." That observation struck me as conveying a hint that leaf-colouring may be overdone; that we might have too much coloured foliage, and too little green leafage contrasted with bright flowers.

It is a fact that few plants which are noticeable for beauty of foliage are remarkable also for handsome flowers, and when flowers are produced in anything like profusion on variegated plants they do not appear to advantage with the beauty of the leafage. The effect of mixing variegated leaves, or sprays of variegated plants, with flowers is very similar to that of flowers upon a variegated plant. They do not accord well together, though the white inflorescence of *Iresine Herbstii* is effective in contrast with the red foliage; the plume-like *Celosia* flowers intermingled with bold variegated foliage have a particularly fine effect; and the sprays of *Panicum variegatum* will almost associate well with anything, and at this its flowering season its crimson inflorescence is quite charming. It shall therefore have the first place upon the list for its general usefulness and adaptation; and as I do not intend to dwell particularly on variegated-foliaged plants, I should like to make but one suggestion—namely, if flowers are at any time scarce never let the scarceness be felt, but seek to meet a lack of flowers by bright glowing leaf-colouring. Many overgrown or ill-shaped plants may often be laid under contribution with advantage even to the plants, and certainly to the credit of the gardener.

I will now note what I find to be useful as early winter-flowering stove plants. *Hippeastrum pardinum* is now (November 21st) in full glory, its crimson-red spots on the cream ground being very beautiful. Just going off are *Hippeastrum robustum* and *Amaryllis aulica platypetala*, red, tipped green, yellow-striped. What

others of this family will flower without any special treatment in a stove? The beauty and distinctness of *Amaryllis* cause them to be always acceptable. *Urceolina aurea*, with its bright yellow and green-tipped drooping bells, is a very desirable early autumn-flowering bulbous plant of the easiest culture, and continues flowering throughout November. It is seldom that the *Griffinia Blumenavia* or *G. hyacinthina* are seen, but finer winter-flowering bulbous plants are not grown. Their flowers are Lily-like, produced in elegant heads, the former having white pink-striped flowers, and the latter blue flowers, and the plants are evergreen—at least as much so as are *Eucharises*.

*Genera macrantha* is another valuable early winter-flowering plant; it has a root like a *Gloxinia*, very clear-green leaves, and a fine head of bright scarlet flowers. It requires to be started in June. The long panicked racemes of orange-scarlet flowers of *G. zebrina splendens* are fine, and as they come from the axils of the leaves after the principal flowers are past the plants continue a long time attractive. *G. cinnabarina* has very beautiful leaves and fine red and orange flowers; but *G. exoniensis* from its dense growth, high-coloured leaves, and profuse blooming properties is the most desirable. Its flowers are orange-scarlet, with a yellow throat. *Achimenes*, and especially *Tydeas*, not started until June, will flower finely in early winter. I find the small but numerous bright scarlet flowers of *A. ignea* very useful for cutting. The flowering sprays have a light appearance. Amongst *Tydeas* I find *Display* a splendid variety.

Few plants are more free in flowering in winter than *Begonia nitida odorata*, white tinged flesh, which does best upon a trellis against a wall; *B. insignis*, pink; *B. Weltoniensis*, pink; *B. erecta multiflora*, pink; *B. fuchsioides*, scarlet; *B. parviflora*, white; *B. hybrida floribunda*, bright rose; *B. Saundersiana*, flesh; *B. Ingrami*, salmon, all from cuttings struck early in April and grown-on make fine plants by autumn, blooming all the winter in a stove.

*Allamanda neriifolia* flowers more or less continuously; and late-started plants of *A. nobilis* and *A. cathartica* give their gorgeous blooms up to Christmas. *Clerodendron Balfouri*, which was given a rest in August and kept moist after the middle of September, is now showing its cymes of white calyxes with their peeping crimson corollas. *Passiflora princeps* keeps up a continuous supply of its rosy scarlet flowers; and the glowing *P. kermesina* is of the brightest scarlet-crimson suffused with violet. *P. Madonna* also is a fine plant for early winter, producing its flowers freely.

*Centropogon Lucyanus* with red flowers is free and effective; and a pretty bushy graceful plant is the easily-grown *Centradenia rosea*, dotted with its rosy stars. Then we have the rosy-pink bracts of *Dalechampia Roezliana* rosea, and the fiery orange scarlet of *Aphelandra aurantiaca* Roezli, *Jasminum Sambac flore-pleno*, white; *Eranthemum pulchellum*, blue; *Thysacanthus rutilans*, scarlet; *Scutellaria Mocciniana* and *S. pulchella*; the very desirable *Tabernaemontana coronaria flore-pleno*,



white; *Poinsettia* with scarlet and white bracts; also the scarlet *Euphorbia jacquiniæflora*, *Pentas kermesina*, deep rosy pink; with the fiery rose or scarlet of *Plumbago coccinea* *superba*, and the deep violet of *Lasiandra macrantha floribunda*; *Ipomæa Horsfalliæ* with its glossy-lustred rosy crimson flowers, and the orange red and yellow of *Manettia bicolor*.

*Rogiera gratissima*, with its fine white heads of bloom, with *Luculia gratisima*, are perhaps the finest of early winter greenhouse plants for cutting; they are best planted out, and succeed well in an intermediate house, as also do *Epiphyllums*, *Libonia floribunda*, *Monochætum ensiferum*, and the fine evergreen bulbous plant *Imantophyllum miniatum*, which usually flowers at this season.

Cool greenhouses are now gay with *Chrysanthemums*. I hope to refer to them again. Our friend's remarks on coloured foliage certainly do not apply to greenhouse plants. If anything there is a paucity of high-coloured foliage in greenhouse plants, except in the Zonal section of variegated *Pelargoniums*. Zonal *Pelargoniums* cut-back in June and grown specially for early winter decoration are exceedingly valuable. In a temperature of 50° they continue flowering most of the winter. Carnations and *Bouvardias*, if the flowers are meant to be had with certainty, must have an intermediate temperature midway between that of a greenhouse and stove; yet I have Carnations more or less through the winter without extra heat.

*Camellias* commence flowering early in November and continue up to April; they never leave the house. Lady Hume's Blush is generally the first to open, and for ladies' hair there is no finer variety excepting buds half expanded of *C. fimbriata*. *Primula sinensis* vars. are never finer than in early winter, flowers of the double kinds being grand for bouquets, and the plants for table and general decorative purposes. *Cyclamens* I find superior when raised from seed and not keeping the plants after the third year. *Cinerarias* sown early now flower well, but are not nearly so good as they will be in March and April. Yellow flowers are given at this season by *Acacia platyptera*, *A. alceifolia elegans*, and *A. armata*. *Abutilon* *Boule de Neige* has white bells after the style of *A. venosum*. *Polygala oppositifolia* is one of those few plants that keep on growing and flowering from the end of every shoot, and the very pretty *Leschenaultia formosa* must not be omitted. *Statice profusa* is always forthcoming in lavender, and *Schizostilis coccinea* in blood colour; and we have the fiery scarlet of *Tropæolum Triomphe de Gand* and others that bloom the winter through in a greenhouse. The long, white, waxy tubes of *Rhododendron jasminiflorum* attract by their loveliness, and *Correas* *Brilliant*, *magnifica*, *cardinalis*, and *Harrisi* always flower in November and December. Roman *Hyacinths* as greenhouse plants are very desirable, and the best blue flowers to associate with the white *Hyacinths* are *Myosotis dissitiflora* and *Ageratum Imperial Dwarf* or *Countess of Stair*, the latter being deeply tinged with purple.

Heaths—everybody likes Heaths—are represented by *Ericas* *Lambertiana* and *L. rosea*, *hyemalis*, *gracilis autumnalis*, *cafra*, *colorans*, *arbuscula*, *canaliculata*, *pyramidalis*, *melanthera*, *Willmoreana*, and *Willmoreana rosea*; and of *Epacris* we have *aridissima*, *delicata*, *The Bride*, *Eclipse*, *carminata*, *Devoniensis*, *hyacinthiflora*, *Lady Panmure*, *impressa coccinea*, *Viscountess Hill*, and *hyacinthiflora candidissima*.

There are many plants that I have omitted, especially in Orchids, as *Calanthe vestita* vars., *Odontoglossums*, *Dendrobies*, *Zygopetalum Mackayi* var., and many others, few being easier grown and certain than *Limatodes rosea*.—G. ABBEY.

### WATERING IN WINTER.

I saw the other day an answer to a correspondent stating that "Peach trees do not require as much water in winter as they do in summer." I do not dispute this advice for a moment; but still I maintain that to allow Peaches or any other trees to become dry during winter does them an immense deal of harm. They do not absolutely require as much water because there are no leaves to evaporate it, but they do require the soil to be as moist in winter as at any other time, and I may say that in my own practice the soil is often wettest during winter indoors as well as out, for which I will give my reasons.

My manure-yard, like most others, is not covered, and when heavy rain comes a great deal of the strength of the manure is washed out, and would be lost if I did not take the precaution to catch it in a hole for the purpose. In summer there is not so much as I should like to apply to plants which are

growing vigorously, but in winter there is more than is required. My fruit borders are not rich, as I hold it to be a mistake to make them so for young trees, which generally grow too vigorously anywhere. The borders are well drained, and the soil is of the simplest nature possible, consequently they will last a long time, and when once the trees attain a fruiting state they will bear any amount of feeding. Well, then, as Nature in her wisdom applies as much water in winter as she does in summer, it is plain that, provided the roots are in a suitable medium, it will do no harm to copy her in this respect. And in practice I find it is not essential to have the water perfectly pure. The manure water is not confined to the houses, but is applied to fruit trees of all sorts as soon as they reach the bearing state, and is commenced with as soon as the wood is fairly ripe in autumn. It should not be applied late in summer while the trees are growing, or it will retard their ripening.

What a change has taken place in the horticultural world within a few years as regards border-making, watering, drying-off, ripening, notions about periods of growth, periods of rest, &c.! It is not many years since Dr. Lindley judged of the quality of a fruit border by the looseness of its material, and thought he had found perfection when he thrust his walking-stick up to the handle into the soil of a Vine border; and he no doubt tempted many to imitate such a border. Now-a-days any practical gardener would ridicule such a notion, and work in almost an opposite direction. A little further on, when the great man saw that the Vine roots darted as straight as an arrow through such a border and ramified in all directions in the gravel walk beyond, he came to the conclusion that the gravel walk was the best medium for them. Here was another instance of theory without practice leading astray one of the best men of our day.

The drying-off process received a severe shock a few years ago when *Cyclamens* were first shown so splendidly from Twickenham, Isleworth, &c., and it was proved that instead of growing and starving alternately for four or five years to get them into a presentable condition, that the work could be better done and more satisfactory results obtained by growing them vigorously for twelve or fourteen months. Drying-off is getting more and more into disrepute every year, and we now see it recommended that even Dutch bulbs should not be kept dry a day longer than is necessary for their journey. It is still recommended by some to dry-off *Amaryllis* and other similar plants; but this will be exploded before many years, for in my practice I find that *Amaryllises* grown in a greenhouse temperature and ripened by placing them outdoors in summer, without ever stinting them of water, flower two or three times a-year, and always have foliage when they do flower. I have many bulbs so treated which are from 18 to 20 inches in circumference.

There is no such thing as a total rest for a plant unless it is receiving injury at the same time. Deciduous plants are growing all through the winter, except when they are frozen or their roots are not in a suitable medium. The nearest approach to a state of rest is when the leaves are falling, and even the leaves are often pushed off by the expanding buds. Deciduous plants used to be treated as if they were as dead as deal boards for two or three months; happily they are not treated quite so badly now, but there is still much room for improvement.—WILLIAM TAYLOR.

### ROSES FROM AN AMERICAN POINT OF VIEW.

#### THE LAST ELECTION.

READERS of the Journal, American as well as English, cannot but feel grateful to Mr. Hinton for bringing about the Rose election lately held. The table, into which is condensed the results of the election, is extremely interesting and instructive.

In looking it over I do not find as many of the Teas included as I expected. We are also surprised to note the high position occupied by *Devoniensis* and *Souvenir d'un Ami*, lovely varieties of the class, but not at all exhibition varieties. *Rubens*, a large and very beautiful sort, is not once named; the charms of *Marie Ducher*, *Madame Trife*, and others are also ignored.

Among the Hybrid Perpetuals *Comtesse Cécile de Chabrilant* occupies a very low position. We cannot understand the reason of this. True, the flowers are not large, but the perfect form, robust habit, and delightful fragrance are a combination of excellencies equalled by few Roses. In selecting a perfect Rose we must have regard to colour, form, fragrance, hardiness, vigour, and free-blooming properties. Excellency in the

first two qualities is essential, and in the others desirable. Judged by this standard Comtesse de Chabrillant is a model variety, and accordingly we enter a respectful protest against the low position assigned her by the electors.

General Washington we would suppose worthy a place among the chosen fifty. The flowers are large, very full, and are produced in great abundance. The idea of attaching raisers' names, and the year when a variety was sent out, is a very useful feature of the table, and greatly to be commended. We append our list of the best fifty varieties:—

Rose.	Age.	Raiser.
1. Alfred Colomb, H.P. ....	1865	Lacharme
2. Catherine Mermet, T. ....	1869	Guillot, fils
3. Charles Lefebvre, H.P. ....	1861	Lacharme
4. Comtesse de Chabrillant, H.P. ....	1859	Marest
5. Countess of Oxford, H.P. ....	1869	Guillot, père
6. Ferdinand de Lesseps, H.P. ....	1869	E. Verdier
7. François Michelin, H.P. ....	1871	Levet
8. Gloire de Dijon, T. ....	1858	Jacotot
9. John Hopper, H.P. ....	1862	Ward
10. La France, H.P. ....	1868	Guillot, fils
11. Louis Van Houtte, H.P. ....	1869	Lacharme
12. Madame Victor Verdier, H.P. ....	1863	E. Verdier
13. Mlle. Marie Rady, H.P. ....	1865	Fontaine
14. Mlle. Eugénie Verdier, H.P. ....	1869	Guillot, fils
15. Maréchal Niel, T. ....	1864	Pradel
16. Marie Baumann, H.P. ....	1863	Baumann
17. Marie Ducher, T. ....	1868	Ducher
18. Marie Van Houtte, T. ....	1871	Ducher
19. Marquise de Castellane, H.P. ....	1869	Pernet
20. Rubens, T. ....		
21. Abel Grand, H.P. ....	1865	Damaizin
22. Anna de Diesbach, H.P. ....	1859	Lacharme
23. Baron de Bonstetten, H.P. ....	1871	Liabaud
24. Baronne de Rothschild, H.P. ....	1867	Pernet
25. Belle Lyonnaise, T. ....	1869	Levet
26. Caroline de Sansal, H.P. ....	1849	Hippolyte Jamain?
27. Cloth of Gold, N. ....	1843	
28. Duke of Edinburgh, H.P. ....	1868	Paul & Son
29. Edouard Morren, H.P. ....	1869	Granger
30. Général Jacqueminot, H.P. ....	1853	Rousselet
31. General Washington, H.P. ....	1861	Granger
32. Lamarque, N. ....		
33. Madame Bravy, T. ....		Guillot, père
34. Madame Camille, T. ....	1871	Guillot, fils
35. Madame Levet, T. ....	1869	Levet
36. Madame Lacharme, H.P. ....	1873	Lacharme
37. Madame Marie Fingier, H.P. ....	1873	Rainbaud
38. Madame Norman, H.P. ....	1887	Guillot, père
39. Madame Trifle, T. ....	1869	Levet
40. Marguerite de St. Amand, H.P. ....	1864	Sansal
41. Maréchal Vaillant, H.P. ....	1861	Lecomte
42. Maurice Bernardin, H.P. ....	1861	Granger
43. Paul Neron, H.P. ....	1849	Levet
44. President Thiers, H.P. ....	1871	Lacharme
45. Prince Camille de Rohan, H.P. ....	1861	E. Verdier
46. S. Reynolds Hole, H.P. ....	1873	Paul & Son
47. Sénateur Vaisse, H.P. ....	1859	Guillot, fils
48. Sombreuil, T. ....		Robert & Moreau
49. Souvenir de la Malmaison, B. ....	1843	Beluge
50. Victor Verdier, H.P. ....	1859	Lacharme

—H. B. ELLWANGER, Mount Hope Nurseries, Rochester, N.Y.

### AN ELECTION OF APPLES.

As the election of Roses has been concluded in the same manner as other elections—that is, satisfactorily to the winning side and with the usual amount of grumbling on the other, but on the whole more satisfactory than any similar elections on account of the fairness by which it was conducted, cannot we engage in other elections equally important to the horticultural world? For instance, great diversity of opinion exists on the merits of Apples for the various purposes this fruit is used for. Can it not, therefore, be divided into sections, and the respective merits of each variety be fairly pointed out? I may be told that every nurseryman's catalogue does this, but the same is also done with Roses. The question, therefore, arises—Cannot the outside world be also invited to give an opinion? And numerous as may be the growers of Roses, I feel sure the growers of the Apple equal if not exceed them in number, and the claim of utility lies vastly in favour of the Apple cultivators. Would it not, therefore, be well if someone would divide Apples into classes in some intelligible form, and invite the opinions of growers on the merits of the respective kinds adapted for each section? Perhaps some classification like the following might be adopted:—

Class 1.—Dessert Apples from the earliest possible period to the end of August.

Class 2.—Kitchen Apples for the same period.

Class 3.—Table Apples for September and October.

Class 4.—Kitchen Apples for the same period.

Class 5.—Table Apples for November, December, and January.

Class 6.—Kitchen Apples for the same period.

Class 7.—Table Apples for February, March, and April.

Class 8.—Kitchen Apples for the same period.

Class 9.—Apples that are fit for table after April.

Class 10.—Apples fit for kitchen use after April.

Perhaps someone may suggest a better classification than the above, and may possibly advise an exhibition class. My object has been simply a utilitarian one, but I do not object to the introduction of a class for exhibition purposes. Those wishing for such a class would probably prefer the autumn months when the greatest display can be secured, but many modifications may be made in the schedule above given, and it is only sketched as a rough idea on the score of utility. A table might perhaps be drawn up giving the respective position of each variety in respect of its free-bearing character. The Apple is unquestionably the most important fruit we grow, and is well worthy of being studied and its merits being fully made known. I hope to hear as lively a discussion on the merits of the respective varieties as has taken place on that of the Rose. In this early stage it would not be advisable my giving an opinion except in the most general sense, and which may be expressed in the words of an eminent grower near here, who "prefers bushels to dozens." The meaning of this will be understood by most people. In conclusion I strongly advise a competitive election of the best varieties of this most useful of all fruits, and hope it will be the means of pointing out the best we have in cultivation adapted for the various purposes set forth.—J. ROBSON.

### ROYAL HORTICULTURAL SOCIETY.

As you have been good enough to issue a supplement slip on the subject of the Royal Horticultural Society, allow me to say a few words upon it.

We have now a long and influential list of names of the best horticulturists throughout the country of all ranks, from peers to professional gardeners, who are willing to join our committee, or to be guinea Fellows or patron four-guinea Fellows of the Society when reconstituted, and they cordially support the movement. Had we time enough before us the influence of their names would be powerful enough to bring in the number of guinea Fellows we require. The end of the present state of things cannot now be far off. May I, therefore, urge upon all who have almost made up their minds to join us to do so at once, and to use their influence over friends to make them do likewise?

It may be said that the appeal should have been made by the Council as the governing body, and not by either a self-constituted committee or by individuals. But the Council is in a not very easy position. Some of its body approve of the guinea fellowships, others do not; others doubt if sufficient numbers will be forthcoming. They may think that out of the number of two and four-guinea Fellows now in the Society a considerable number may, from old association, or from good will, or from force of habit, continue their subscriptions after the gardens, for the benefit of which they at first subscribed, have been given up; that guinea fellowships might disturb these subscribers, and that thus one probability might be sacrificed for another.

It is different with an outside committee and with individuals. I am convinced that guinea fellowships and patron four-guinea fellowships will give the strongest form of Society and will enlist the good feeling of the whole country, and that the necessary numbers can be shown to be forthcoming. I believe the most practical course now to take is to concentrate our efforts to bring in enough would-be Fellows from all parts of the country to make a Society representing those who love gardening, and those who have most studied or take the greatest interest in gardens and in horticultural science.

The experiment in this district has proved that there are abundance of owners of gardens in the country ready and willing, if asked, to form a Society with a sufficient revenue for all our wants. Letters in answer to the circular, which has now been widely distributed, show that in England, Scotland, Ireland, Wales, and Jersey horticulturists adopt the guinea fellowship, believe that it will produce a strong lasting Society, and are willing to take trouble in canvassing their neighbours.

I for one would advise little change in the present executive. It is both experienced and able. Why, the many good Councils, who have devoted great labour and much more valuable time to the affairs of the Society, with the result only of successive

failures, is not owing to their fault, but to the composition of the Society and to the incumbrances due to this composition.

Of course the Council's object is to make the Society strong and stable, and without the constant changes and dissensions which have been alike the evidence and the cause of its unhealthy condition; and if we can show a sufficiently strong body of the right sort of Fellows who have agreed to join on the new bases, the Council will be only too glad to see a difficult question solved. Therefore let me say again to all good horticulturists, Come in, come quickly, and make others come. If anyone is willing to circulate slips like those which have been distributed, and will ask for them, I shall be most glad (having contracted for 100,000) to forward any quantity. While this was being written the post which came in brought six letters with names of would-be guinea Fellows; two of the number, one from Yorkshire, the other from Leicestershire, asked for circulars to distribute; and two of the names were those of ladies.—GEORGE F. WILSON, *Heatherbank, Weybridge Heath, Surrey.*

### GARIBALDI STRAWBERRY.

In reply to Mr. Bennett of the Rabley Nurseries I can state that the man who claims the credit of raising Garibaldi is Mr. Thomas Armstrong, Belah Gardens, near Carlisle. He sent a few plants of it for trial to Mr. Joseph Hamilton of Botcherby, Carlisle, an extensive fruit grower and market gardener, also a man of much experience, and well known as the founder of the Hamiltonian system of Pine-growing. I believe he considered Garibaldi quite distinct and well worthy of cultivation. At that time, as now, some regarded it as identical with Vicomtesse Héricart de Thury, and no doubt assertions to that effect have prevented its wider cultivation, more especially in the southern and eastern counties, where it seems to be almost unknown; but in the northern counties, around the "merry city" where it originated, and in the south of Scotland, it is extensively grown and, I believe, very much esteemed, being a certain and abundant cropper out of doors, and for forcing one that can always be relied on for a crop.

I have grown and forced it regularly for several years along with other varieties, such as President, Keen's Seedling, Sir Joseph Paxton, Sir Charles Napier, and others, but latterly have given Garibaldi preference for my first; and with me it has been very rare indeed that any of the plants have turned out non-fruiters, and therefore I regard it as a Strawberry of great excellence. I have this autumn young plants of Vicomtesse Héricart de Thury, and next season I shall decide the identity or otherwise of the two varieties. I may say, however, that anyone adding the true Garibaldi to their collection will not be disappointed. If it turn out a distinct variety, to Mr. Armstrong is due the thanks of the horticultural community for raising it; but I fear with that he must be satisfied, as I do not believe he has hitherto reaped much benefit from it, and as it is in the hands of so many dealers and private individuals he cannot hope to do so now.—J. B. S.

### HOW TO GROW THE ROSE.

I CAN best show my gratitude to "R. S." for affording me another opportunity of drawing attention to the subject of the usual ill-treatment of the Rose, by giving him a few hints as to how he may best improve the condition of the Roses in his own small garden.

There are three courses open to him. I will mention each in its order of merit. (1), I would recommend him to devote one small bed, or a portion of a larger one, entirely to the Roses. A space 6 feet by 4 feet will be of sufficient size to give the requisite amount of room. Let the ground in the first instance be trenched to the depth of 2 feet and well manured. Should the subsoil not be sufficiently good the addition of a little turfy loam will be desirable. This addition need not, however, be regarded as altogether indispensable, for I know that rich loam of this character is in some localities difficult to procure. Previous to replanting the Roses their roots will be all the better for a slight trimming, and any suckers that may have formed amongst them will have to be carefully removed. If the Roses are on the Manetti they should be planted 6 inches, and if on the Briar 3 inches deep. Care should be taken that the soil be well trodden down round the stems after planting. Secure the stocks, if standards, to firmly planted stakes, and attach permanent labels to those varieties the names of which are known. These per-

manent labels may be quickly made out of thin strips of deal smeared over with white paint, and written on afterwards with an ordinary lead pencil. (2), Should "R. S." prefer to retain his Roses in the same places they now occupy, he has only to dig them up and replant them in accordance with the foregoing directions. (3), Or he may transfer some of them to a small grass plot, should he possess one, in a similar manner. In the two latter cases it is all-important that no plant or grass should at any time be allowed to grow within 18 inches of the stems of these Rose trees, and that the roots of the removed Roses should not be exposed to the influence of the sun and air longer than is absolutely necessary. Now is the time of year to carry out these simple operations.

I would willingly add some instructions as to pruning when the long-looked-for spring arrives; but as I do not know the names of the varieties in question can only advise a clean cutting-out of all decayed, weak, and superfluous wood, and that the shortening of the remainder be left to the knife of some kind and experienced Rose-loving neighbour.

I infer from "R. S.'s" remarks that his own Roses are situated in the midst of a crowd of other flowers, and that his garden is very limited in size. But even should these inferences prove altogether wide of the mark I do not think the suggestions I have given will be thrown away; for only a few months since might be seen, in every other garden throughout the length and breadth of Rose-growing England, half-famished Roses casting hungry and envious glances across the intervening fences at those more fortunate members of their race who, to all appearances, were in the enjoyment of the most ruddy and blooming health, and living literally upon the very fat of the land.

It is for hundreds of thousands of "miserable starvelings," as Mr. Luckhurst would call them, like these that I again venture to plead; and all I ask for them is a little more room and a rather more generous dietary.—E. M., *Croydon.*

### FLOWER SHOWS AND THE PUBLIC.

It will be very cheering for those of your readers who are earnest supporters of horticultural exhibitions to see that it is not impossible to revive the apparent declining taste for flower shows. The Newcastle-on-Tyne Botanical and Horticultural Society has been in a very low state for the last few years, and had it been in some localities it would have expired before now. It has apparently taken a fresh "lease," and much credit is certainly due to Mr. Taylor and his colleagues for their energy and the success which has crowned their efforts.

It is a pity that Mr. Taylor did not give your readers the secret of success, as it might have proved of much value to men who may unfortunately be similarly situated with other societies. A few weeks ago I saw a circular issued by this Society, but which I unfortunately have not by me, but from what I can remember their new scheme (if it is new) is a similar one to that now being energetically advocated by Mr. G. F. Wilson for the reorganisation of the Royal Horticultural Society, only differing in the amount of subscription. This Newcastle Society gives to every member who subscribes 5s. a pass which will admit him to all shows held by the Society, and a ticket to admit a friend to one of these. The Society purposes holding three shows during 1877, of two days each, so that each subscriber gets for his 5s. tickets to the value of 12s.—that is, supposing his pass to be used for both days of each show, the other ticket being worth 2s. on the first day of either show. As I write from memory I hope I may be excused if I make any mistake. And this is just what Mr. G. F. Wilson wishes to do for the Royal Horticultural Society by introducing guinea Fellows, and I think the surprising success that has been achieved at Newcastle augurs well for the success of the same scheme with the Royal Horticultural Society. I hope it may be equally satisfactory.

There is one matter wherein I think the Newcastle Society makes a mistake—viz., allowing an exhibitor to set up as many stands as he chooses for one prize. Take a few examples which I observed at their autumn show. For the best six stove and greenhouse plants A was first and third, B second. C and D, finding no chance of a place there, set their plants up as six miscellaneous plants. B now had first place, A second, and either C or D again thrown out of a place. Here you see A had three stands suitable for entering for the premier prizes, and had not an opponent turned up with a stand which was certain to throw him out of one of the three prizes he would have set up three stands and won first, second, and

third. A grows Heaths well and shows them well, he consequently had first and second unopposed, everyone else being driven out of the field. Another instance: I observed E had first, second, third, and fourth for twelve Carnations, the same exhibitor having the same number of prizes for six Carnations. F came off with first, second, third, and fourth for twelve Picotees, and also for six of the same. No opposition was offered to either of these, their claims to the prizes being quite established, and apparently quietly arranged between themselves.

I do not think it is right for a Society supported by public money to thus give large growers the opportunity of monopolising the whole of the prizes offered for certain articles. The original object of flower shows was to encourage small growers, then general good cultivators. This Society, I contend, does not do so; it is an unequal contest. Large growers should be content with first place, and small growers will be content to come behind them. The Newcastle Society ought to wipe this blot out of their book now that they are in prosperity. "Oh!" say they, "we could not get a show otherwise." How do other societies do? say I. Most societies have a rule as follows:—"No competitor allowed to stage more than one lot for any one prize." I contend that this rule should not be omitted by any society in the country.

I was much pleased with many things which I saw at the Newcastle autumn show. I was pleased to see the plants arranged in a manner that the public could see them on all sides. I was pleased to see such grand stands of Dahlias, Gladioli, Asters, &c. The dinner-table decorations were attractive, as were also the plants staged for table decoration, but the effect was spoiled by their being packed too closely together, and I am glad to see that we are likely to have similar treats at the forthcoming shows at Newcastle.

I am not a disappointed exhibitor, and I hope Mr. Taylor will not take any adverse criticism which I may have made as being prompted by any other wish than to see this and all similar societies healthy and prosperous.—R. INGLIS.

#### MADRESFIELD COURT GRAPE.

THIS Grape—like many others—is getting uncommonly ill spoken of by some, and just as well spoken of by others. It would appear, however, that all are agreed as to its having some grand points, such as its free-bearing qualities, its immense berries, and good flavour. These are certainly fine characteristics, and if it could be produced as perfectly swelled and coloured, and kept afterwards as Mr. Johnston showed it at Dundee last September, where is the cultivator that would not like to grow it? But the great defect which it develops in not a few instances is, that almost every berry splits after becoming fully ripe, or just as it attains perfection. Mr. Hunter at Lambton Castle had this year the most extraordinary bunch of it that was ever produced perhaps, and he intended to show it at Dundee, but it cracked, so that it was not fit to show in September. The question becomes one of importance, Is this grand Grape, or this Grape with so many grand points, to be condemned and abandoned because, under certain circumstances, it develops this certainly fatal flaw or fault? That it does remarkably well under some conditions is unquestionable. At Bolton Hall in Yorkshire it invariably does well, and never cracks. It is said by Mr. Roberts, the gardener at Bolton Hall, that it succeeds even better in the same house than Lady Downe's, Alicante, and Barbarossa. It of course becomes a question as to the exact conditions under which this, or any other Grape which often fails, succeeds so perfectly. It is said to be growing in a border which is all inside the vinery, and composed of loam of the carboniferous limestone, bones, brick-rubbish, and a good deal of charred garden rubbish. These are just the conditions under which a Grape subject to split would be expected to be most free from this fault, and it is found so. It is not a very uncommon thing to see even Black Hamburgs split to some extent when a very wet time succeeds a dry season, when the roots are in outside borders in wet localities. The amount of water in an inside border is entirely under control; and, moreover, when the border is made up of such open material as the inside border at Bolton Hall, the amount of water held in suspension is reduced to a minimum, and consequently the chances of this or any Grape splitting. The particulars regarding the prominent development of this flaw in the case of the grand bunch at Lambton would be interesting. According to Mr. Hunter's own account of his practice, enormous supplies of water are one of the chief

features of it. There are few Grapes, even our oldest standards, but what require some special points of culture. The Muscat, to do it well, requires strong heat, bright light, and very generous treatment. The Black Hamburg succeeds fairly if it gets very ordinary treatment, but it never colours so well in the heat required to finish Muscats as it does in a cooler house. Lady Downe's—our best keeping Grape—will be and is often ruined by too much heat at the stoning period; and so I might refer to all other Grapes, scarcely one of which but requires some special guarding at certain stages of their growth. But who would think of rushing into print to condemn these Grapes? Whoever did so would be thought to be most successful in revealing his own ignorance.

Would it not be worth while, in gardens where space could be afforded to carry out such an arrangement, to set apart a house with its border all inside, for such a noble Grape as Madresfield Court assuredly is—all but its tendency to split—and subject it to special treatment for this evil? and it might also be worth while to associate with it that other well-abused Grape, Golden Champion. The same treatment would prevent it from splitting and spotting that would prevent the first of those evils in Madresfield Court. And I never heard of these two Grapes being placed on the table in good condition yet, that they did not alike meet with the most unreserved praise as being two grand Grapes. It is well known to experienced Grape-growers that an over-damp atmosphere will cause most Grapes to spot; and this year I saw a striking example of this in the case of Gros Colman, the Duke of Buccleuch, and slightly in Black Hamburgs, all in the same house, through oversprinkling of the floor of the vinery in dull weather when little air could be given. Would it be reasonable to condemn these three Grapes on this account? It is quite right that all new things should be well criticised, but it is to be feared that much of the criticism in this age of scribbling is advanced for the mere sake of finding fault, instead of bringing out the special conditions under which fine sorts do well.—PRACTITIONER (in *The Gardener*.)

#### LAURUSTINUSES FOR INDOOR DECORATION IN WINTER.

THIS is a useful winter-flowering shrub which seems to have been overlooked by many who have to keep greenhouses and conservatories gay at this season of the year. I saw some well-grown Laurustinuses a week or so ago at Thoresby Park, and amongst the many attractive plants there these shrubs were very conspicuous. They were grown in large tubs, and Mr. Henderson said they had stood in the open air all summer up to October. They are removed outside again in spring, and their cultivation is extremely simple. They have been grown indoors in the winter time for a number of years at Thoresby, and the flowers open much freer under glass than in the open air. At the time of my visit the plants were a complete mass of purple with the opening buds, and by this time they will be a perfect sheet of pure white, and the Ixora-like trusses of flowers are not only ornamental on the plants, but they are extremely useful in a cut state. Smaller plants than those at Thoresby might, no doubt, be had with a proportionate quantity of flowers, and they would be exceedingly useful in mixing with other flowering subjects on conservatory stages.—S. W.

#### THE NURSERIES OF MESSRS. W. CUTBUSH AND SON, BARNET AND HIGHGATE.

SINCE the lamented death of Mr. William Cutbush in May last the Barnet Nurseries have become allied with those of Highgate, and both are now conducted by the firm above named as the only horticultural representatives of an old horticultural family. Mr. William Cutbush commenced business at Barnet thirty-six years ago, and throughout that time was esteemed for his honourable dealings, high character, and business assiduity. Mr. James Cutbush, inheriting the family "roof tree," has continued residing at Highgate, and has conducted that nursery, also another branch at Finchley, in a practical and exemplary manner.

These nurseries are not large, yet the trio may amount in area to about thirty acres. Geographically they occupy a high position, perhaps the highest of any metropolitan nurseries of note. From Highgate the "modern Babylon" is overlooked, but is seen only through a veil of misty smoke by



day, and at night resembles a panorama—a topsy-turvy firmament—of lamps. The air of the standpoint is clear and bracing, for it floats above the level of the mist and the line of the smoke. Finchley is even higher than Highgate, and higher still than Finchley is Barnet, and at the highest part of Barnet on the plateau of its hill are the nurseries: the nurseries of Messrs. Outbush & Sons, therefore, occupy a “high position.”

The two nurseries, Highgate and Barnet, are connected by a loop of the Great Northern Railway, Finchley being midway between the two places. The country traversed is pleasant, even picturesque, for the ground is boldly undulated, and if the trees are not of the largest the grass is of the greenest. It is a district of pasture lands and meadows, unbroken as yet by the “civilising influences of the plough,” and uninvaded by the ever-spreading, ever-rising “monuments of art”—dwellings of bricks and mortar. Why does the city linger so long in travelling southwards? and why does the country begin so suddenly northwards? The answer is found in two short but potent words—gravel, clay. Southwards the former attracts and man rears his dwellings; northwards the latter repels and nature reigns supreme.

Yet before reaching the nurseries at Barnet at least one object of art attracts—the noble parish church, one of the many edifices which adorn our land, and more than any other link the past with the present, and also which happily will connect the present with the future, for this is a generation of church restoration, and the fine edifice at Barnet has been restored at a cost of £12,000. It is built of flints with dressings of stone, and is of imposing appearance, a structure which any town might be proud of owning.

But we are at the nurseries, and here we find, like many other eminences in clay districts, that the soil is light—an admixture of sand and gravel, the valleys only being of clay. On this bleak exposure the air is keen and clear, just such where the Heather thrives, and doubtless the situation and the nature of the water have much to do with the healthy freedom with which hardwooded plants grow in this nursery. For years it has been noted for the production of *Ericas*, *Epacris*, &c., and only recently thirty thousand plants of this nature have been sold from its stores, and there are thousands more in various stages of growth preparing to meet future demands.

A visit on the heels of a “clearing-out,” and when alterations such as placing new heating apparatus in the houses, is not a time to find a nursery in showy trimness. Beyond this it perhaps betrays a suspicion of the absence of a “master’s eye.” Failing health and death ever leaves marks more or less melancholy behind. But a master’s eye and energy is again visible, and Barnet may be expected in due time to reflect the order, neatness, and superior condition of Highgate. At Barnet there are several glass structures—large light houses, which after the sale one might have expected to have found nearly empty, yet they are more nearly full, some even being crowded. In the propagating house in a flourishing state is a fine lot of *Camellias* grafted six weeks ago, and nearly every one “taken.” Many thousands of *Camellia* cuttings for stocks are also as healthy as could be desired. *Epiphyllums* are being extensively increased by grafting them on *Pereskia* stocks, and this work is skilfully done, the union of stock and graft being nearly imperceptible. *Boronia*s, especially *B. pinnata*, also *Acacias*, *Ericas*, *Dracophyllums*, &c., are being provided for future demands by the skilful propagator. In other houses plants of this nature are in various stages of growth, from small portable “market stuff” to three-quarter and half specimens. *Genetyllises* are growing with the freedom of *Privet*, *Phenocomas*, *Correas* (*magnifica* and *cardinalis*) are equally healthy; and *Gompholobiums*, *Pleromas*, *Polygalas*, *Aphelexes*, *Eriostemons*, *Daphnes*, &c., are luxuriating in the several structures; about half a score of large houses are devoted to plants of this nature. A large span-roofed house about 100 feet in length is filled with large and small *Camellias*, heavily-berried *Aucubas* (*A. japonica vera*), *Acacias* (*armata*, *Riceana*, &c.); choice *Rhododendrons*, and a goodly number of *Statices profusa*. Stove plants are also grown—popular kinds for decorative purposes, such as *Dracenas*, *Eucharises*, *Ardisia crenulata*, a remarkably fine stock; *Stephanotes*, and the fine climber *Ipomœa Horsfallii*. Besides the houses are extensive ranges of pits. In one range are 20,000 *Ericas* and *Epacris*es for flowering next year, and in others are plants in an advanced stage for decorative purposes, such as *Ericas cafra*, *hyemalis*, *colorans*, &c., flowering profusely, and in excellent condition. Plants of this nature are indispensable for winter decoration, and the way in which

they are grown in this and other nurseries where special attention is given to them insures a supply of plants much better, also more cheaply, provided than can be produced by gardeners who have so many and varied demands on their time and attention.

In the grounds are many *Conifers*, &c. *Araucarias* in this high bleak exposure having passed uninjured through many winters, and are now commanding specimens. Standard variegated *Hollies* are numerous and fine, and there are good stocks of *Deodars*, *Ivies*, &c., and *Vines* in pots. About a quarter of a mile distant is another nursery worthy of a visit if only to inspect the extensive and splendid collection of *Hollies*. The green-leaved varieties are numerous, but the best of the variegated sorts surpass them in numbers and effect. The *Golden* and *Silver Queens*, *marginata*, and others are in thousands, the shrubs ranging from 3 to 6 feet in height. They are in the most perfect health and colour, and are adaptable more than any other shrub in cultivation to brighten and cheer on lawns and in pleasure grounds throughout the dull months of winter. *Rhododendrons* thrive admirably in the gravelly but peatless soil of this nursery, as do hardy Ghent *Azaleas*, *A. sinensis*. There are also evergreens and *Conifers* and *Ivies*; many thousands of the common green *Ivy* in pots for insuring safe removal. There are also forest trees and fruit trees; but the latter, with *Roses*, are chiefly grown at Finchley, where the soil and situation are specially favourable for their free yet robust and hardy growth. The Barnet Nursery is an important addition to business of the firm under whose personal supervision it will shortly again be brought into systematic order.

HIGHGATE.—This nursery is in an admirable state, the plants in the houses and the shrubs, &c., in the grounds being alike creditable to their owner and his foremen. The span-roofed show house, about 50 feet by 30, is filled with clean and healthy *Palms*, *Ferns*, *Yuccas*, and *Dracenas*, and the foliage is enlivened by flowering plants of *Epiphyllums*. A few of the best of these valuable winter-decorative plants are *violacea grandiflora*, purple white tube, free; *Salmonæa*, rosy salmon; *tricolor*, purple and scarlet, fine; *Morrelliana*, scarlet; *Snowii*, purplish red; and *amabilis*, deep rose. Two other houses are filled with *Erica Willmoreana*, the plants being in the finest possible condition; and equally superior are the *Epacris*es, which occupied an adjoining structure, the foliage being of the deepest green, and the shoots of 2 to 3 feet in length closely set with flower buds. A few of the most useful are the following:—*Vesta*, *Viscountess Hill*, *Lady Panmure*, *The Bride*, *alba odorata*, and *hyacinthiflora rosea* amongst the early-flowering; *Walkerii*, *rubella*, *fulgens*, *Fairburniana*, *hyacinthiflora candidissima*, and *courasensis* being good as later-flowering sorts. Another house is filled with *Azaleas*, half-specimens, and the next with small plants of the best continental varieties. A fine stock of *Bossia Hendersonii*, a valuable greenhouse plant, is noticeable, as also are young plants of *Witsenia corymbosa*, a good old Cape plant, distinct in habit and attractive by its purplish blue flowers. Of *Camellias* there is an excellent collection including many well-furnished plants of the old *alba plena*, the most useful *Camellia* in cultivation. The plants of this are numerous and superior, and are well set with flower buds. The plants of the different varieties range in height from 5 inches to 5 feet. Amongst them are interspersed *Chrysanthemums*, the plants having been grown this year in a natural manner. On the shelves of this and adjoining house is an extensive stock of double *Primulas*, than which no plants in the winter are more valuable for furnishing pure white flowers for bouquets, &c. Brick pits are crowded with *Heaths* for the next year’s supply—a most promising stock, and successive batches are struck and striking in the propagating house; and *Hyacinths*, for which this nursery is famed, are snugly buried in cocoa-nut fibre refuse, the greater number being in the open air, only a few for early flowering being buried under glass.

The outdoor department is fully as worthy of inspection as the stock of plants in the houses. *Euonymuses*, *Retinosporas*, &c., are attractively disposed, and *Bays*, *Laurustinuses*, &c., in pots are numerous and good. Standard *Bays* are grown here equal in the straightness of their stems and the symmetry of their heads to the continental specimens, and these shrubs are never injured by frost at Highgate. There are huge bushes of *Bays*, also a hedge of them, than which nothing in their way could look better. *Laurels* are, too, very conspicuous, not wildly growing untended shrubs of the common variety, but handsome specimens of those noble sorts—

rotundifolia, colehica, and caucasica. These are handsome pyramids 6 to 8 feet high, and have been carefully pinched and tended. For lawns and prominent places in shrubberies such specimens as these are highly ornamental. Arbutuses are largely grown, and thrive admirably; and of Ivies many thousands are grown in pots ready for removal at any season. Evergreen Oaks are similarly grown, and the pots plunged in the soil. This is done to ensure the safe removal of specimens which otherwise would not succeed, these being the most "ticklish" to transplant of all evergreens. The specimens thus grown are, like the Laurels, large and well furnished. There are ornamental-flowering and drooping deciduous trees; also Conifers, Yuccas, and other subjects completing the stock of this well managed and favourably and pleasantly situated nursery.

In extent it is small, but a wide trade connection is associated with it, and its business tone is manifestly brisk and healthy. Neither is it likely to show any abatement so long as the experienced head continues to direct in the prompt and able manner which has won for him the confidence of many friends and supporters, metropolitan and provincial.—VISITOR.

## ROYAL HORTICULTURAL SOCIETY.

DECEMBER 6TH.

**FRUIT COMMITTEE.**—Henry Webb, Esq., V.P. in the chair. Mr. Bland, of Fordham near Soham, sent a seedling Apple of good quality, but not of greater merit than many others in cultivation. Messrs. Merryweather & Son of Southwell sent a new kitchen Apple called Bramley's Seedling, of large size and excellent quality. It was highly commended. Mr. P. Grieve, Culford Gardens, Bury St. Edmunds, sent a seedling Pear which was not of sufficient merit to receive a certificate. Rev. A. Rawson, The Vicarage, Bromley, Kent, sent a seedling Pear, raised by crossing Seckle and Forelle. It is of the form of Figue de Naples, and has a yellowish flesh of delicious flavour similar to that of Seckle. The fruit was rather decayed, but was thought so good the Committee desired to see it again. D. P. Bell, Esq., Clive House, Alnwick, sent a bunch of a seedling Grape with the following communication:—"The Vine was raised a few years ago, and is a cross with Black Morocco, and a seedling raised, I understand, at Wortley. It is a free grower, a heavy cropper, and has a strong constitution. It is not liable to shank, nor the berries to scald as Lady Downe's does, its keeping properties are quite equal to Lady Downe's, and its colour uniformly better. Since the Vines were planted six years ago it has been excessively cropped until this year, but it has never failed to colour its fruit as well as the specimen now shown."

The bunch is large and heavily shouldered with a stout stalk. The berry stalks are stout, and the berries large and roundish oval, frequently with sutural furrows. Skin quite black and membranous, covered with a fine bloom. Flesh firm, tender, very juicy, and sweet. It was unanimously awarded a first-class certificate. This is a far superior fruit to Alicante, and will no doubt prove to be a late-keeping variety of great value.

Mr. Bennett, Rabley, sent a brace of Rabley Cucumbers, Tomatoes, and Strawberries. Mr. Ollerhead, gardener to Sir H. Peek, Bart., Wimbledon House, sent two fine Shaddocks, and was awarded a letter of thanks. Mr. Miles, of Wycombe Abbey Gardens, brought a Pine Apple of conical shape like the Enville, of tender flesh and delicious flavour, which was much admired, and a vote of thanks was awarded to Mr. Miles, who promised to bring another fruit, and to furnish full particulars respecting it. Henry Webb, Esq., of Redstone Manor House, Redhill, sent dishes of Glou Morveau and Vicar of Winkfield Pears. The former was of excellent flavour. Also a dish of Passe Colmar. A vote of thanks was awarded.

**FLORAL COMMITTEE.**—W. B. Kellock, Esq., in the chair. This was the closing meeting of the year—the last of a series of horticultural gatherings of the greatest importance in the advancement of the art which they were instituted to foster. Nearly all the meetings of the year have been good meetings—many of them excellent, both as regards the subjects exhibited and the assemblages of horticulturists. This was also a successful meeting. The magnificent group of Orchids exhibited by Sir Trevor Laurence, Bart., M.P., Burford Lodge, Dorking, was alone worth a journey of a hundred miles to see. The collection consisted of about thirty plants in various sizes. A noble plant of *Zygopetalum Mackayi* was 4 feet in diameter, and had twenty robust spikes; *Calanthe Veitchii* was in such condition both for vigour of spikes and the rich colour of the flowers that we have seldom seen equalled and never surpassed; *Odontoglossum Insleyi leopardinum* had twelve spikes; and *Cypripedium insigne*, a grand variety, was 3 feet in diameter. *Dendrobium primulinum giganteum* was very conspicuous; the two stems were covered with flowers from the root to their tips, the plant having forty flowers. *Epidendrum vitellinum majus*, *Odontoglossum cordatum superbum*, *O. Pescatorei*, *O. constrictum*,

*O. gloriosum*, *O. roseum*, with *Masdevallias*, *Sophronis*, very superior; *Tricopilia*, and the curious *Restrepia antennifera* completed this remarkably fine collection. The plants were grown by Mr. Spyers.

Messrs. Veitch & Sons, the Royal Exotic Nursery, Chelsea, also exhibited about thirty plants of Orchids, alike interesting and beautiful. A conspicuous plant of *Laelia anceps* occupied the centre of the group. *Laelia alba* in two varieties was very lovely. *Cypripediums*—*Sedeni insigne*, *Maulei*, very fine; *Harrisianum*, *Crossianum*, and *Schlimmii album* were in great beauty. Amongst the smaller plants were the striking *Odontoglossum cirrosum*, also *O. Rossi majus*, and *O. nevadense*. Amongst the *Masdevallias* were *Barlaana Tovarensis*, *ignea rubescens*, &c. *Lycaste Skinneri alba* was very pure. These with others formed a group which deservedly attracted great attention, and for which a vote of thanks was awarded. Messrs. Veitch also exhibited *Poinsettia pulcherrima amena* altogether softer in colour than the species, the bracts being also broader, more regular, and more closely arranged. The heads were about a foot in diameter.

Mr. Denning, gardener to Lord Londesborough, Londesborough Lodge, Norbiton, exhibited *Oncidium Londesboroughianum*, a splendid flower with a broad lip of the brightest yellow, and broad and stout richly marked petals and sepals, which add greatly to the beauty of the flower. The long arching spike had ten expanded flowers, and as many more to open. It is a most distinct and valuable addition to the family, and worthy of bearing so good a name. A first-class certificate was unanimously awarded.

A box of twenty-four varieties of cut blooms of zonal Geraniums was sent by Mr. Cannell, Swanley Nurseries, Kent, which for size, substance, and brightness of colours have not been surpassed at any summer show. The varieties were Rev. J. Atkinson, Eros, Circulator, Alice Spencer, Alonzo, Sir C. Campbell, Heartsease, Havelock, A. Henderson, Sybil Holden, New Life, Peabody, Jealousy, Sir G. Wolsley, Imogene, White Clipper, Mabel Eden, Astarte, Marguerite Ponton, Dr. Sharpe, De Lesseps, Mr. J. F. Fenn, and Vanessa—a brilliant display, and which merited the vote of thanks awarded.

Mr. Mann, the Nursery, Brentwood, exhibited plants of zonal Geranium Earl of Beaconsfield, a dwarf and very profuse-flowering variety, a little brighter and larger in flower than *Vesuvius*.

Mr. Ollerhead, gardener to Sir W. Peek, Bart., Wimbledon House, exhibited plants of *Plumbago rosea*, which had been struck from cuttings in the spring, and the plants trained on the back wall of a Melon house. The plants were in 8-inch pots, they were 7 feet high and 3 feet in diameter, and were covered in every part with fine spikes of lovely-coloured flowers. Mr. Ollerhead also exhibited shoots 6 feet high surmounted with flowers of *Euphorbia jacquiniæflora*, from plants planted in a Pine pit. They were exceedingly vigorous; and Mr. Parker, Exotic Nursery, Tooting, exhibited cut blooms of the sweet and charming aquatic *Aponogeton distachyon*, which had been grown in the open water; also flowering plants of *Iberis semperflorens* and *Streptocarpus Greenii* delicate.

A remarkable collection of pressed Fern fronds and autumn leaves was exhibited by Mr. Howard, 29, King Street, Covent Garden. Many of the specimens were pressed last year; the colours were admirably preserved. They had been prepared in America by Mrs. Reed Watson, East Windsor Hill, Conn. A vote of thanks was awarded for them.

## DIOSPYROS KAKI.

My friend Dr. Voelcker has been kind enough to have the fruit of the *Diospyros Kaki* analysed in his laboratory. The quantity of tannic acid it is shown to contain is quite sufficient to account for the wry faces of those who first tasted it. Let us hope, as is probably the case, that other varieties contain more sugar and less of the astringent principle.

Water .....	84.64
Albuminous compounds (containing nitrogen) .....	0.62
Crude woody fibre .....	2.11
Tannic acid .....	2.32
Sugar, pecten, &c. ....	9.59
Mineral matter (ash) .....	0.42

100.00

—G. F. WILSON.

## CAPE PELARGONIUMS.

I WANT to establish a good collection of this beautiful tribe of plants, perhaps some of the contributors of the Journal can assist me in doing so. I have some—namely, *ardens*, *echinatum*, *filipendulifolium*, *flexuosum*, *gibbosum*, *macro-rhizon*, *quinquevulnerum*, *reniforme*, *semperflorens*, and *tetragonum*. These were all I could obtain of a nurseryman in

my neighbourhood, but I think there must be many others, unless these "plants of the past" are become nearly extinct. I remember some years ago seeing a work, but I do not recollect the name of the author, in which Cape Geraniums were represented by some very good illustrations. The flowers figured were grotesque, curious, and many of them beautiful. I desire names in addition to those above given, and to know where the plants can be obtained.—CAPE.

### THE COST AND ADVANTAGES OF DEEP CULTIVATION.

FINDING my present garden too limited in extent, I have this autumn hired an additional plot of 600 square yards. This piece of land comprises one of twelve allotment gardens, and has been cropped for the last twenty years or more chiefly with Potatoes. Along with the annual crop of Potatoes the land has produced a fair crop of weeds; as many of these weeds were deep-rooted (the land only being cultivated at a maximum depth of 6 inches), I at once determined to subsoil or double-dig it over.

Having now done so it has occurred to me that my experience as to the cost of the work might be useful to some readers; I submit also my estimate of the advantages of deep digging.

I found that myself and a labourer working cheerfully could subsoil or double-dig about 100 square yards of land in eight hours. If we charge labour at the moderate rate of 3d. per hour, the cost will amount to  $\frac{1}{2}$ d. per yard, or say at the rate of £10 per acre. In some portions of the plot the cost was nearly double, owing to beds of deep-rooted weeds, including Thistles, Docks and Bindweed. These roots were all picked out, and the bottom spit dug twice over; but where the land was fairly clear of weeds the above is a fair estimate of the time and labour required.

I find the four or five-tined steel digging-fork far better for the work than the spade; in fact a man using a spade would not do the work so well, nor would he be able to do as much of it. To ensure the work being done thoroughly, a master or some trustworthy person should be there to take a part in the work. It is work that is easy to slip, leaving a portion of the bottom soil undug, and the weed roots unpicked out. The total depth of the two spits would be from 15 to 18 inches. So much as to the labour and cost, and now as to the advantages.

In the first place it should be remembered that subsoiling and trenching are quite distinct. I can quite understand why some persons object to trenching. I have seen land trenched and made so barren by the operation that even weeds have refused to grow on it for a season. I never trench land before it has been subsoiled two or three seasons previously, for I have found from experience that bringing the raw and hungry subsoil to the surface and burying the top soil is a great mistake.

The first advantage arising from deep digging is the removal of deep-rooted weeds. It certainly is a great advantage to the gardener to be able to determine beforehand what class of plants he will grow on a given piece of land, and deep-rooted weeds can only be destroyed by deep digging. But if I may be allowed to digress, let me here state that I think "weeds" are often abused and called by harder names than they deserve. It seems to me like "man's ingratitude" and "benefits forgot" for the gardener to complain in such bitter language about the "growth of evil weeds," for his soil owes much of its fertility to the accumulated deposit of ages of weed remains. For my part I have long looked upon weeds as "friends in disguise." But however slow many of us may be to find out the uses and value of weeds, I think we are all agreed that it is not convenient to grow them indiscriminately amongst our garden crops, and by far the best and cheapest plan to eradicate those having deep roots is to subsoil and pick them out by hand.

Another great advantage of deep cultivation in my opinion is this—land that is thoroughly cultivated has not only greater power of retaining moisture after rain, but it is enabled to gather a supply of moisture during periods of severe drought: from the soil beneath and from the atmosphere above moisture may be obtained. Use the fork or spade in the autumn and the hoe freely during the summer, and the crops will not often suffer from dry weather.

To use the watering can during every fit of dry weather is a mischievous practice, for it is more likely to ruin the crop than to benefit it. If you wish to destroy the independence of a plant, if you wish to pauperise it, if you wish the sun to burn it up, by all means fly to the watering can; but if you

wish your crop to be independent of the season, if you wish it to enjoy the bright warm sunshine of summer—in a word, if you wish your crop to come to perfection, dig deep and hoe oft (once a-week if you like), and neither weeds nor dry weather will hurt your crop. The large amount of moisture in the atmosphere during the hot and dry weather of summer may be taken advantage of. The soil may be prepared by thorough cultivation to act as a powerful condenser; and if we thus offer facilities for the circulation of the air in the soil we not only gather a supply of moisture to sustain the plants in health during the summer, but all through the wet and cold days of winter a good work is still going on.

The exposure of the soil by deep digging to the disintegrating influences of the rains and frosts of winter has a very beneficial result on nearly all classes of soils. We thus assist Nature (ever ready to help us) to unlock the latent stores of plant food of which the crust of the earth is composed. The soil is rich in mineral food, but without cultivation and exposure to the air it remains insoluble, and is not available as food for plants. Gardeners would do well to remember that cultivation of the soil is an equivalent for manuring it.

I think it is about time I was bringing my writing to a close, as too much writing at once is as bad as too much digging, so I will just mention one other advantage and then conclude. Most of us are aware that pulverised soil moderately dry is a powerful deodoriser, and very possibly, as the air circulates through the soil, it may be purified and the soil enriched to their mutual advantage. The poisonous gases floating in the air are absorbed and captured by the soil as they pass over its surface. The soil having once obtained possession of them transmutes them into food for plants.—W. LOVEL, *Weaverthorpe, York.*

### CHAPTERS ON INSECTS FOR GARDENERS.

No. 14.

IN the course of our survey of the domains of insect life we have now arrived at an order which wins admirers even amongst those who have little taste for, or knowledge of, natural history. One section of this order—the butterflies—are associated in the case of a number of persons with the earliest recollections of childhood and of the pleasures of country scenery. If we were to ask the poet or the artist to assign these and the equally gaudy moths a fitting place in the ranks of insects, it is probable they would at once declare that these delicately plumed and variously coloured creatures ought to form the leading or principal group. Pursuing, however, that natural arrangement which has the approval of most entomologists, and working as before from the lower to the higher, we step from the frequently uninviting insects of the order Hemiptera to the Lepidoptera, which embraces the butterflies and moths. Beyond this lies the Hymenopterous order, so that our friends the bees and our enemies the wasps and sawflies might consider themselves (could they reason on the subject) superior to their broad-winged downy-coated relatives, which possess the same number of the organs of flight. For many reasons the Lepidoptera have had more attention given to them by the entomologist than any other order of insects. Their conspicuousness on the wing, the elegance or beauty of their appearance, the comparative ease with which they can be kept in cabinets and the regularity of their transformations, with the facilities for watching these usually attainable—all these circumstances have given butterflies and moths a position of their own amongst the insect tribes. It is amusing to find that not a few individuals have prided themselves on being "entomologists," whose knowledge of insects goes hardly beyond the Lepidoptera, and who could scarcely say whether the grub of a beetle has legs or not, or give any account of the habits of a dragon fly. This is much as if a man professed to be an ornithologist who only collected water-fowl or finches. Happily for science a better state of things has begun, and many gardeners are becoming well acquainted with the structure and habits of insects.

Looking at the order Lepidoptera from the horticultural point of view, we perceive that it occupies a middle place. On æsthetic grounds we might praise it, for it includes species that give ornament to the garden or the parterre in their winged condition; but also, unfortunately, various species in their caterpillar state are more or less harmful to vegetation. Of friends to the gardener we can reckon few amongst butterflies and moths, for the larvae of these are not parasitic in habit, though one singular exception occurs abroad, where the larva

of a small moth has been discovered living in the manner of a parasite on a species of Lantern-fly. There are, however, some caterpillars which subsist partially on the carcasses of their lesser brethren, and two noteworthy instances are the Satellite (*Scopelosoma satellitia*) and the Dun Bar (*Cosmia trapezina*); they are not at present sufficiently common to be of marked utility. Certain of the diminutive moths in the genus *Pinea* also deposit eggs in such situations that their larvæ are able to prey upon the pupæ of Lepidoptera. And this is pretty nearly all we can say; for though the crushed bodies of caterpillars have been made to yield a dye, and other species are, as is well known, valuable as silk-producers, for neither of these circumstances have they special claim on the horticulturist's regard.

The transformations undergone by these insects, taken as a whole, are now too familiar to all intelligent persons to require a detailed account in this place of the successive stages of egg, larva, and pupa or chrysalis, from which the imago, or mature insect, is finally produced. As in every order, the general rules are subject to some curious exceptions or variations; but these are invariable—namely, that every butterfly or moth goes through the four stages—long or short, and that the number of legs in the larva are six, and of claspers or pro-legs never more than ten nor less than four. The body, usually cylindrical, is made up of twelve segments, the head being furnished with simple eyes or ocelli, short palpi or feelers, and a pair of jaws capable of biting very effectively. The food of larvæ in the order is vegetable only; and though they are not among the most injurious of insects, their ravages are often peculiarly noticeable, because they take in a large amount of sustenance, often in a short space of time, and also sometimes assemble in companies. The pupa of a butterfly or moth—whether it be simply suspended, laid upon or buried in the earth, or enclosed in a cocoon—has no distinction of parts; though it may be angulated or variously shaped, yet the outline of the future insect may be traced upon its surface in many instances. Whether the pupa state lasts for weeks or months, it is always a period of inactivity; the pupa neither eats nor moves—except an occasional twirl, perhaps, when subjected to any annoyance—till the time comes for the extrication of the imago; and in some species the moth has no small difficulty in disengaging itself from a small or hard cocoon, Nature aiding its strength and ingenuity sometimes by supplying a solvent fluid.

But, taking as a specimen for investigation either a butterfly or moth, since it is mainly on the perfect insect that we rest our definition of the orders, we observe first that the antennæ are either clubbed as in the butterflies, spindle-shaped as in the hawk moths, or feathered or thread-like as in the bulk of the moths. Secondly, the four wings, rarely absent, are, save in a few species with clear and membranous wings, covered with scales (popularly called feathers, really somewhat akin to hairs), which by a very moderate magnifier we can see are rooted in the wing and arranged in tile fashion. Thirdly, the head is furnished with compound hairy eyes, and the organs of the mouth take the form of a proboscis or sucker. Fourthly, the thorax is stout and muscular, because on it depend the movements of the wings and legs; the abdomen, though flexible and usually oval, having little of the power we find that portion of the body possesses in some of the orders. Both thorax and abdomen are downy. Fifthly, the legs are hairy and furnished with two claws, in number six; the front pair abortive in several species of the butterflies. And a passing explanation as to three or four English words associated with the Lepidoptera is desirable. First with regard to the oft-used word "butterfly." This has lately been discussed in "Notes and Queries," and several suggestions thrown out why "butter" might form part of the name of these aerial creatures. It may have been because our forefathers noticed them as abundant during what is called the "butter" season, or because their wings were of the colour of butter, as in some common species; or because, so thinks one author, they were believed to represent evil spirits, who came in that guise and bewitched the butter! All these are rather lame theories, and two suppositions are more probable—either that the old name was "budder-fly," a fly that buds or bursts forth from a pupa case which looks inanimate; or else that the name arose from the Saxon word *bodda*, applied to a grub or crawling creature, and still existing in the term "bots," well known to rearsers of horses. The butterfly, then, would mean simply the fly which comes from the grub, and dim notions about the transformations of insects certainly were of early date in history. The word "moth" presents this

peculiarity, that it doubtless took its origin from the habits of those small species which for thousands of years have been noticed to infest and destroy woollen and other materials, and by degrees it spread upwards till it was used to cover the whole of the second great division of the Lepidoptera. The root is an old word to be traced in many languages, meaning something that eats or chews, therefore quite inapplicable to all these insects in their winged state. Then there is "caterpillar," the first half of which word must be left in obscurity, the second clearly applying to the action of these creatures in "pilling," peeling, or stripping plants and trees. Of "chrysalis," still used by a number of authors to express the third stage of insect life, one can only say that it would be better to supplant it by the word "pupa," as "chrysalis" originally meant those pupæ which have a lustrous or golden appearance, as in a few butterflies.

The statement has been freely copied by compilers of books that you may at once tell a butterfly from a moth by the knobbed antennæ of the former; but this is not very reliable, since in the Red-horns, and in some of the Blues, the clubbing is not very marked. More fallacious still is the popular supposition that moths are dull-coloured and butterflies gaily adorned, for there are many examples to the contrary, though it is possible to refer to whole groups of moths where sombre tints predominate. The majority of our butterflies are also lively in colouring, though they cannot compete with the brilliancy of exotic species. A good distinction is the position in which the wings are placed when the insect is at rest. Our butterflies when sitting on a flower or leaf generally bring all the wings together above the back, so that all that is seen is the under side of the hind wings. The frisky little fellows we call Skippers practise, however, an eccentricity, for they often raise the fore wings and drop the hinder pair horizontally. Most moths, on the other hand, either spread out all the wings flat, or they fold up the hind wings, and hide these and the body by sloping over them the fore wings. In the majority of moths we find a singular formation, called the "spring and socket arrangement." A curved bristle at the base of the hind wings passes into a small loop of membrane or hairs, and works up and down when the insect is on the wing, possibly needless in the case of butterflies, which have much less weight to carry usually. "But, don't butterflies fly by day and moths by night?" says someone. Well, we are tolerably safe in asserting butterflies fly by day, though an occasional White or Red Admiral has been seen careering about at even tide, experimenting on the quality of the honey to be found at that time; but this is no adequate distinction between the two groups. There are moths the regular habit of which is to fly in the bright sunshine; there are some that prefer dull days, and some also that now and then make day excursions, though it is their general habit to take wing at or about dusk; and of the night-flying moths there is a proportion fond of the twilight rather than of those hours when "gloom o'erspreads the sky."

The number of our British butterflies, including even a couple of somewhat doubtful residents, is only sixty-six, a proportion so remarkably small as compared with the sum total of our moths, that a variety of explanations have been given, none of them satisfactory. Perhaps the likeliest is that which attributes it to the variableness of our climate and the dampness of our average winters. Against these insects, taken as a whole, the horticulturist cannot bring a heavy indictment, since his enemies are confined to a few species, though these are certainly apt in some years to occasion him annoyance. But butterflies do not attack any plants of special value, such as the Vine amongst fruits, or the Potato amongst vegetables, or the Rose amongst flowers. Naturally, many butterflies are attracted to gardens by the flowers they display, travelling at times long distances for this purpose, though some of our species never quit the marsh, the field, or the wood where they have been bred.—J. R. S. C.

### VICTORIA PARK.

The ground was purchased with the money paid by the Duke of Sutherland to the Government for Stafford House, £72,000. The area of the park is about 290 acres. It is surrounded by an industrial population with but little leisure time for pleasure, and living for the most part in crowded workrooms and ill-ventilated dwellings. Such people know best how to appreciate the contrast between their usual surroundings and the beauties of Nature when a little leisure gives them an opportunity



The pure air, green grass, trees, shrubs, and bright flowers are nowhere more prized than at the East End. Bethnal Green, Hackney, Bow, and Whitechapel are proud of their park, and justly so, for they have a cricket ground (40 acres), a lake for boating and another for bathing, and they have also a gymnasium, and last, but not least, a magnificent display of flowers that is equal to anything seen in and about London. The designs and planting are varied and excellent—examples of good taste, which afford delight to all beholders. It is gratifying to observe that the people show by their demeanour that they know how to respect these benefits and protect a privilege conceded to them. They look upon the park as their own property, and the authorities do what they can to foster a taste for floriculture. It is evident also that plants are valued by the people of the East, for thousands apply to the Park Superintendent at certain times of the year for cuttings, &c., which the First Commissioner of Her Majesty's Works has

ordered to be distributed among them. As a means of further rendering assistance and instruction plants are grown in the park and exhibited at the local shows. Friendly hints of management are also given, and not without effect, for the working classes exhibit plants that would be a credit to a west-end show.

This park possesses horticultural attractions in no small degree, and maintains the first position for flowers in spring, summer, and autumn. The spring commences with Hyacinths, Tulips, and other spring flowers of various and delicate colours filling the atmosphere with fragrance. Then comes the summer glow with a diversity of colours contrasted and harmonised, producing a picture at once pleasing and satisfying; and after the summer flowers have passed away come the autumn candidates for their share of admiration. The Chrysanthemum receives great attention in this neighbourhood, and an exhibition in the park of this flower attracts thousands



Fig. 72.—VICTORIA PARK.

in the dull days of November. The plants are brought to great perfection through unwearying diligence and care.

Although this is a young park, yet trees abound. There are shady avenues of Limes and Elms, and on all sides handsome specimens are towering above the shrubs, such as the *Pinus excelsa* from Nepal, the *Cedrus Deodara* from India, the Tulip Tree from North America, Cypress trees from California, and on the turf in a recess is a thriving example of *Salisburia adiantifolia*, the Maiden-hair Tree. The deciduous Cypress is growing freely, also the Tree of Heaven (*Ailanthus glandulosa*) and Locust Trees (*Robinias*) flower profusely. The following trees are making good headway:—The Sycamore, the Ash, Horse Chestnut, Birch, the Willow, and the Plane. The park is celebrated for an extensive collection of trees and shrubs of smaller growth. Near the valley-walk leading to the lake is the sweet-scented *Daphne*; the *Cotoneaster*, covered in spring with white blossoms, and in winter with red berries; the red-flowered Currant (*Ribes sanguineum*), one of the hardiest and most handsome of all our deciduous flowering shrubs, is very beautiful with its crimson-red flowers in April and May. Nearer to the lake is a fine group of variegated Hollies and several species of *Spiræas*. On the turf is the Coffee Tree (*Gymnocladus canadensis*) and the Strawberry Tree (*Arbutus unedo*).

A small piece of rockwork has a very picturesque effect; it

is covered with many curious alpine plants, Sedums, Saxifrages, Echeverias, Grasses, and other plants remarkable for the elegance of their foliage. The ground in this part of the park is laid out in the most irregular manner possible, so as to obtain a great number of pleasant walks. The shrubs are mostly planted on raised banks. A number of strong-growing plants are scattered about in front of them, and a few choice specimens on the grass contribute to break and soften the outline of the shrubs.

There are also ornamental sheets of water, islands, rustic bridges, shady and banks. On the islands the Weeping Willow dips its branches in the water, forming an excellent cover for the Muscovy ducks and the timid waterhens. The majestic swan and the keen-eyed China and Barnacle geese may also be seen in company with other aquatic birds. The varied attractions of this park are thoroughly enjoyed by all visitors, and good management is reflected in every department.—NATHAN COLE, *Kensington Gardens*.

#### THE CULTURE OF THE CHRYSANTHEMUM.

As a proof that the Chrysanthemum is not declining in public favour we have only to look around us and notice the many societies which offer encouragement for the cultivation of this grand autumnal flower. In the immediate neighbour-

hood of London the Chrysanthemum is held in great repute; and the provinces are not far behind, for Liverpool, Manchester, Peterborough, Northampton, Oxford, Maidstone, Dartford, Devonport, &c., have their annual shows, and as most of them have fine-foliaged plants and fruits associated with Chrysanthemums, these autumn displays are very attractive. Chrysanthemums are also grown in greater excellence than formerly for home decoration; in fact they are becoming more popular every season, for they not only brighten the duller months of the year, but are adapted to the dry air of heated rooms, in which they remain a long time in a fresh state. The Chrysanthemum is a very accommodating plant, and one which it would be difficult for the novice to kill; but, on the other hand, both skill and patience are necessary to reach perfection, and for this more time, care, and attention are required than can always be bestowed by those who have many garden cares.

In my remarks on culture it must be understood that I have in view perfection of bloom and not symmetry of plants.

When cuttings can be readily procured (which is generally as soon as the plants go out of bloom) insert four or five around the sides of a pot, and place them in a cold frame on a layer of coal ashes to prevent worms from entering the pots. Cuttings put-in in this way strike freely and remain strong and stocky. As soon as well rooted, which is generally about January or February, pot them singly into small pots, returning them again to the cold frame and keeping them close for a few days, affording all the air possible, and if this is carried out with judgment the plants grow slowly but robustly. Immediately they have filled these pots with roots and without becoming matted, which will be about the month of April, the plants will require another shift, this time into 32's, returning them to the frame until all fear of frost is gone; if frames cannot be spared the plants may be protected with mats. At this period of their growth the plants are liable to attacks from green fly, which must be eradicated either by smoking with tobacco paper, dusting the plants with tobacco powder, or dipping them in tobacco water.

From the middle to the end of June the plants will require their final shift into 9-inch pots, which size I consider large enough for plants that are grown for quality of blooms only. But it too often happens that the gardener is more than usually busy about this time, and the Chrysanthemums do not receive the attention which they require, and consequently the final potting is deferred until the roots become matted; this, I would observe, is a prime cause of stunted plants and loss of foliage, and nothing in plant-growing shows defective cultivation so much as plants with long stems devoid of foliage. After receiving their final potting each plant must have a supporting stake, and be placed in a sunny position in the open air; the sides of a gravel path answer well. I formerly thought that with the pots so exposed the roots were liable to be injured, but further experience inclines me to think that though this way entails more labour in supplying water, yet the wood becomes better ripened, and consequently finer flowers are produced; for it were useless to expect perfect flowers from unripened wood.

The plants must be encouraged to grow on uninterruptedly without stopping them, giving them plenty of clear water until the buds begin forming, when manure water may be given freely up to the time the flowers are almost expanded. To ensure large blooms disbudding must be resorted to, and the middle or crown buds of the four or five which appear should be left. The plants require to be supported by strong stakes, these in turn being secured to a string stretched from stake to stake to prevent the equinoctial gales, which often prevail during September, from blowing the plants about and breaking them.

A compost of sound loam three parts, the other part well decayed manure and a good sprinkling of silver sand, well mixed together, is suitable. The pots should be well drained, bones or oyster shells being preferable to common crocks, the bones, &c., affording sustenance as well as drainage. About

a handful of guano to a can of four gallons of water is an excellent stimulant; manure water made from cow and horse droppings, and from guano and soot, also afford a beneficial change of food. By a judicious use of these stimulants after the flower buds are first discernible, the foliage will change as if by magic to a deep rich green. The Chrysanthemum is able to absorb stimulants of a strong nature; but it is not advisable to over-dose the plants, for highly-fed flowers are not lasting, and the premature decay, which is attributed to damp, is more often the result of overfeeding with liquid manure, and which causes also the blooms of some varieties to be both coarse and rough.

Besides as single-stemmed or untrained plants, there are other modes of growing the Chrysanthemum, but wherever the mode described can be carried out in its entirety, and the plants can be



Fig. 73.

staged closely together, they form a magnificent bank of flowers.

The following of thirty varieties are generally prominent in exhibitions of cut blooms:—Mrs. G. Rundle, Mr. G. Glenny, and Mrs. Dixon. All three very good, and most perfect as regards shape, but somewhat small. They are a good trio for the front row for a board of twenty-four. Lady Hardinge, Empress of India, Queen of England, John Salter, Prince Alfred, Isabella Bott, Mrs. Heale, Lord Derby, Jardin des Plantes, Cherrub, Prince of Wales, Princess of Wales, Princess of Teck, White Globe, White Beverley, Golden Beverley, Mr. Brunlees, Golden Eagle, Golden Dr. Brock, White Venus, Venus, Eve, Pink Perfection, Antonelli, Lady Slade, Aureum multiflorum, and Gloria Mundi.—J. W. MOORMAN.

**SPECIMENS.**—To produce plants similar to the one in the engraving, I commence operations about the end of November or beginning of December, by inserting two good cuttings of each variety I wish to grow in a 60-pot. I place these in a frame or a spant hotbed, and keep them close until they are struck. My object in doing this is to have the cuttings struck as quickly as possible, and not to allow them to become stunted, for if once permitted to get into a hidebound state they never make satisfactory plants. As soon as struck I transfer them to a shelf in a warm greenhouse. About the middle of February they are potted singly into large 60's in

a rich compost. The second week in March the plants will be about 6 inches in height and well established. I now take out the extreme point, which induce numerous side shoots to be thrown out—sometimes a dozen, according to the variety. I generally manage to have them potted into 6 inch pots by the middle of April; the side shoots or breaks are then about 5 or 6 inches long, and are pegged down towards the rim of the pot. Shortly after this the plants are removed to a cold frame, and plenty of air is given on all favourable occasions. At this time they grow very rapidly and are again pinched, and potted into 8-inch pots. I may here state, that by taking out the extreme points of the shoots carefully I secure a larger number of strong breaks than by pinching back in a rough manner. If the plants are allowed to have a check at this stage of their growth, either by hard pinching, allowing them to become dry, or placing them in cold draughts, they will eventually present the grower with a number of deformed flowers besides losing a part of their foliage.

I pot my plants for the last time from 8-inch to 11½-inch pots the first week in June, about which time they are pinched for the last time. This stopping will give from forty to sixty breaks, a number which will be found quite sufficient to form a first-class specimen. After being potted into their flowering pots they are taken to their summer quarters; a piece of open ground is provided in the full sun, but sheltered on all sides from wind. I place them on the surface of the ground and surround each pot with ashes up to the rim. I let them grow on after this in their own wild way without any training whatever, giving them every day unlimited supplies of water, adding a little clear soot water two or three times a-week. I find during hot weather that the plants cannot have too much water, provided the drainage is clear. The foliage will also be improved by a watering overhead late every evening.

About the beginning of September the buds will begin to appear. I always select the centre one on each shoot, and remove all others with the point of a small penknife; this operation I perform as soon as I can do so without injuring the centre bud. The ashes are now removed from the sides of the pot to allow the sun and air free access to all parts of the pot and plant, with a view to having the wood thoroughly ripened—a great point to be aimed at, for without ripe wood fine flowers need not be expected.

Earwigs and a small grub are found to be very troublesome at this stage; they must be diligently sought for and destroyed, or the most promising plant will soon be disfigured by their depredations. After the buds are all set I substitute guano water for soot water. I take a good pinch between the thumb and forefinger and rub it well into a small can of water and use at once, a method I find answers very well.

Staking the plants is a very important operation, which requires care, taste and patience. I usually commence tying the first week in October. I will, as briefly as possible, try to describe the way I proceed. The most convenient way is to place the plants on a hand barrow, being careful to have it level. But before tying I give a good dusting of flowers of sulphur underneath the foliage, which can be easily done by turning the plant on its side; this is to prevent mildew. The first stick placed in the centre of the plant must be upright. The sticks I use are about 2 feet long. I now take a shoot and tie it as low down this stick as I can without breaking—a little twisting is sometimes necessary—so that the bud comes directly on the top of the stick. Five sticks are now placed around this central stick in a circle, and they will be found to be about equal distance from the centre stick and from each other. The after-part is a mere repetition, except the outside circle, and these shoots are brought down to the rim of the pot and then tied straight up the stick. I allow my plants to stand outside as long as the weather is at all open, and several of the early varieties only have the protection of an open shed on wet days and cold nights. The plants will grow considerably after this, and the buds will soon be several inches above the sticks; these must be drawn down, carefully working the ties down at the same time until the bud reaches its original position, making a notch above each tie to prevent pushing up again. This mode of culture has led to considerable success both at metropolitan and suburban exhibitions.

It will be seen by the above remarks that I have given dates which are strictly in accordance with my own practice; but if the intending Chrysanthemum-grower can get his plants along earlier in the season let him do so by all means. Early growth, short-jointed wood, combined with thorough ripening, are the chief elements of success.

The compost I use for the final potting consists of good yellow loam broken up roughly three parts, one part well-decayed manure, and a handful of bone dust to each plant, with enough silver sand to keep all open.

Good varieties for specimens are Mrs. G. Rundle, G. Glenney, Mr. Dixon, Mr. Brunlees, Prince of Wales, Lady Hardinge, Guernsey Nugget, Venus, Faust, Dr. Sharp, Alma, and White Christine. The three last-named have reflexed flowers, but the plants are free growers of good habit.—W. HALL.

[The engraving is from a photograph of the smallest plant which Mr. Hall exhibited at the Brixton Show. For exuberance of foliage from the base to the points of each stem, and for the high quality of the blooms, also for the compactness and general finish of the specimen, it is an admirable example of skilful cultivation. The variety represented is Faust, a purplish crimson flower large and incurved.—EDS.]

## NOTES FROM TASMANIA.

THE past winter in Tasmania has been the driest known for many years, no rain falling for six weeks; and after two or three wet days it was again fine for four or five weeks, which is very unusual at this season of the year (September).

During our winter months I often think of the long dull and sunless days of English winters, and think that if the gardeners at home could only secure the bright Tasmanian winters there would be fewer complaints about the difficulties of the early forcing of plants, Grapes, Strawberries, &c., as here it is an exception to have two, or even one sunless day in a week. During June, July and August, which are our dullest months, we frequently have frosts. The severest I have known was 12° Fahr., but by 11 A.M. the sun was as warm and genial as a May day at home. The south wind here is very cold and cutting, similar to your east wind.

We have the following shrubs and plants in open borders planted out without the slightest shelter, and with one exception all remain uninjured during winter and grow most luxuriantly:—*Tecoma jasminoides*, *Polygala myrtifolia*, *P. cordifolia*, *Boronia megastigma*, *B. elatior*, *B. serrulata*, *Clanthus Dampieri*, *Aralia Sieboldi*, *Libonia floribunda*, and *Phormium tenax variegatum*; *Grevillea robusta* being the only plant that appears to suffer during winter. These are only a few of many plants treated as border plants which at home receive greenhouse treatment. Many stove plants are here grown as greenhouse plants.

Tasmania may justly be called a fruit country. I shall never forget the first impressions I received upon landing after a long voyage and seeing the immense quantities of fruit. There is a small Plum grown here very largely, but which does not meet with a very ready sale, as the market is overdone with it. It is a small oval-shaped Cherry Plum, and which in former times realised 20s. to 30s. per bushel. At one place I saw upwards of eighty bushels allowed to fall and go to waste, the price offered not paying for picking. Small fruits are largely grown for the Melbourne market and for jam manufactories. Prices vary from 2½d. to 4½d. per lb. for Black and Red Currants and Raspberries. Apples and Pears realise in Tasmania from 2s. to 4s. per bushel wholesale, but a much higher rate in Melbourne. The soil and climate here are admirably adapted for fruit-growing. Apricots, Peaches, Grapes, &c., grow and fruit abundantly. Apricots and Peaches grow as standards and produce fine-looking fruit, although I do not think the flavour so good as at home.

The bush at this season of the year begins to look very gay. The Acacias are now in full bloom. In some parts the sight is grand, as for miles all along the roadside are Acacias from 3 to 40 feet high, completely covered with rich golden flowers; while the small Epacris, Heaths, and Orchids are beginning to unfold their colours.

I think Tasmania is well entitled to share honour with New Zealand as being the paradise of Ferns. In my rambles through the bush I have seen some magnificent valleys of Ferns in their rich wild beauty. Upon the N.W. coast I saw a fine patch of *Gleichenia speluncea*, which had fastened itself to the undergrowth. I measured the patch, it was 30 yards round and 7 feet high. There was not a place around it where I could get my hand through without displacing the foliage. It was growing in a swampy creek. I was struck with its great beauty, and was sorry to think how fast these fine examples of Ferns are disappearing owing to the bush fires. After a fire has passed over them they still live, but never recover their beauty. I recollected the specimen *Gleichenias* which

were disposed of at the Manley Hall sale in 1872, and compared the difference—the care and attention they received, and here in the wild bush, without any care, and scarcely an admirer to preserve these and many other Ferns for future generations. They are, like the Aborigines, fast disappearing from all the settled districts. For instance, I have heard of persons cutting down the Dicksonias and bracing them together to form a hut to live in; others cut them down and split them open to feed the pigs upon the pithy substance in the centre. In some places the Ferns are not found growing, while in distant gullies they are very plentiful, but as soon as the scrub and timber is taken away and they are exposed to the dry atmosphere they turn sickly, and never flourish afterwards.

It is a great pity that in Tasmania, with all its natural advantages, gardening is not carried on with greater spirit than at present. Gentlemen do not enter into it with the enthusiasm that is needful for success. There is a horticultural society in Launceston, which holds three and sometimes four shows in the year, while one or two other towns in the north have a society—*i.e.*, Longford, Evandale, and Deloraine. The plants, &c., are not allowed to be removed from the show till the following day, as it is generally found to be very profitable to the society to have it open during the evening.

In conclusion I would say to any young men intending to emigrate to the Australian colonies, Throw away before starting all high and lofty ideas about gardening, and become willing to adapt yourselves to circumstances, as the duties of a gardener are very different here to what they are at home, and until a man gets used to the change he feels very discontented, and regrets leaving England. Still, to young men of steady industrious habits there are openings of promise in the continental part of Australia.—F. W., *Launceston, Tasmania*.

### EUCALYPTUS GLOBULUS.

In March, 1875, I bought a small tree in a pot, which I kept in my unheated orchard house, and planted this tree in the centre of my walled garden in September. It was then about 4 feet high, and as thick as a fair-sized finger. I put some spent seaweed round the stem, but the frost at the end of November killed it. At the same time (March, 1875) I sowed a packet of seed in a pan, and raised some twenty-five plants. I transplanted these into three or four large pots, seven or eight in a pot, and early in October I planted ten strong plants out near a 6-foot wall facing the east. These were from 18 inches to 2 feet high. I put some manure round the stems for protection. They all did well, and are now from 4 to 9 feet high. I moved two of these about 4 feet high in September last, and I think they will die. I do not think they move well, for their roots are small and do not extend, and they have an abundance of foliage. I sent plants to a gentleman at Penzance, and when I heard last they were thriving.—Wm. K., *Arundel*.

I FOUND an Eucalyptus about 18 inches high planted-out on the lawn when I came here (May, 1874). It grew very rapidly. The leaves browned and withered in the winter, but it revived in spring. In the September gales of 1875 it lost its leader when it had attained fully 14 or 15 feet. Last winter it suffered as before, looking if possible more hopeless than ever, but spring restored its beauty, and it is now a handsome bush, untouched as yet by the frost. It has never had any protection.—BOURNEMOUTH.

I HAVE grown this for three years, raised originally in a hotbed, and kept one winter in a greenhouse, then growing too large it was planted amongst shrubs—grew 7-6 high. In the winter of last year, although bound round with straw, it was cut off and killed by frost. The same year in the same garden smaller trees stood the winter, and are now doing well, but have not run up. I intend to let them alone, and my impression is if we have hard frost they will die. I do not think they will stand English winters, and I am told that at Nice they suffer much (although large trees) from frost. I will report results in the spring.—F. C. HASSARD, *Sheerness*.

### PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

MIRABILIS MULTIFLORA. *Nat. ord.*, Nyctaginaceæ. *Linn.*, Pentandria Monogynia. Flowers crimson.—“This strikingly beautiful plant was raised from Californian seeds by Mr. Thompson of Ipswich, who sent flowering specimens to Kew

in July of the present year. It has apparently an extensive range, from the forks of the Platte river, in lat. 42° N., where it was discovered by Dr. James in 1820, to Mexico, where it was found near Zacatecas, in lat. 23°, by Coulter, and subsequently in New Mexico by Wright and Fendler.”—(*Bot. Mag.*, t. 6266.)

TURRÆA OBTUSIFOLIA. *Nat. ord.*, Meliaceæ. *Linn.*, Monadelphia Decandria.—“A shrub, native of woods and bushy places in the eastern districts of South Africa, extending from Albany to Natal, apparently most common in the eastward; it also occurs as far north as Lake Ngamo in latitude 21° south, where it was gathered by McCabe, and in Sechualis country, the specimens from whence have narrower leaves. The genus *Turræa* consists of pretty white-flowered shrubs and small trees of tropical Asia and Africa; about sixteen species are known. *T. obtusifolia* was raised from seeds sent to the Royal Garden by H. Hutton, Esq., of Graafreinet, in 1872, which flowered in the present year.”—(*Ibid.*, t. 6267.)

MASDEVALLIA TRIARISTELLA. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Densely tufted dwarf flowers, yellow and crimson.—“*Masdevallia triaristella* was discovered in Costa Rica by Endres, and flowered by Messrs. Veitch in September last.”—(*Ibid.*, t. 6268.)

MUSCARI ÆSTIVALE. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia. Flowers yellow, top ones pink.—“This is a near neighbour of that old and well-known garden favourite, the Musk Hyacinth, *Muscari moschatum*. Besides its botanical characters, our present plant differs from *moschatum* by its faint scent and much later time of flowering. It came from the rich bulb collection of H. J. Elwes, Esq., of Miserdine House, Cirencester, and flowered in his garden at the middle of June, 1875. He procured it from Messrs. Haage & Schmidt of Erfurt, and does not know its exact country, but no doubt, like its allies, it comes from some part of the rich Oriental region.”—(*Ibid.*, t. 6269.)

MONARDELLA MACRANTHA. *Nat. ord.*, Lamiaceæ. *Linn.*, Didymia Gymnospermia. Flowers crimson.—“A very beautiful, highly aromatic Californian plant, described by Asa Gray very recently, and apparently local, as he gives but three localities for it—namely, the Cuimáca Mountains, near Julian city, and north-east of San Diego. Our cultivated specimens differ from Gray's description in the close heads of flowers, in the corolla not reaching 1½ inch in length, and in its brighter colour, being more scarlet than orange-red. It was raised by Messrs. Veitch from Californian seeds, and flowered in October of the present year.”—(*Ibid.*, t. 6270.)

KERAMANTHUS KIRKII. *Nat. ord.*, Passifloræ. *Linn.*, Diœcia Pentandria.—“*Keramanthus Kirkii* is stated by Dr. Kirk to be very common at Zanzibar, where it is planted, like the *Jatropha Curcas*, to mark the site of graves. It flowers at Kew during the greater part of the year; our tallest plant is 2 feet high.”—(*Ibid.*, t. 6271.)

PLUM—*Frogmore Damson*.—“Our old varieties of Damsons are very few, the principal kinds grown being the Common, the Shropshire, and the Yellow. We may, therefore, with pleasure welcome a new and improved variety of this class of fruit, and such is the subject of our plate, which represents a Damson that is not only new, but distinct from those enumerated above. It originated, as its name implies, in the Royal Gardens at Frogmore, and although a few years have elapsed since it was raised and distributed, it is not so well known as it deserves to be. The habit of the tree is different from that of the usual type, since it has broader leaves, is of spreading growth, and has the shoots less thorny. It is an enormous bearer. The fruit is a trifle larger than that of its class, of a purplish-black colour, and inclining to obtuse-oval in shape. The flesh is tender and richly flavoured. It is suitable for all the purposes to which Damsons are applied.—J. POWELL, *Frogmore*.”—(*Flor. and Pom.*, 3 s., ix., 265.)

### NOTES AND GLEANINGS.

At a meeting of florists, held at South Kensington yesterday, Mr. Thomas Moore in the chair, it was reported that Francis Whitburn, Esq., had accepted the office of President of the southern branch of the National Auricula Society, and had offered a donation of £5 to the prize fund; and that the Crystal Palace Company had promised a donation of £10, and named April 24th as a suitable day for the Show. Dr. Hogg, Dr. Masters, Dr. Denny, G. F. Wilson, Esq., Mr. Cutbush, and Mr. Lidgard were added to the general Committee; and Mr. Turner, Mr. Dodwell, and Mr. Douglas were nominated a sub-



committee, to arrange a schedule of prizes for Auriculas and Polyanthus. Subscriptions amounting to upwards of £40 have been promised, and further offers of support may be sent to Mr. E. S. Dodwell, Larkhall Rise, Clapham.

— We lately noticed flowering in the collection of Messrs. Veitch & Sons at Chelsea a plant of *LIPARIS PENDULA*, an interesting Indian Orchid. It is not of recent introduction, nor are the individual flowers of great beauty, yet are noticeable as resembling those of Mignonette, and are scented like that choice old favourite. They are borne on recurved spikes 9 inches in length.

— We have two letters, one informing us that *GARIBALDI STRAWBERRY* was raised by Mr. Armstrong of Botcherby, Carlisle, and the other by the late Mr. Nicholson of Eaglescliffe, Yorkshire; while a third writer asserts that Garibaldi and Vicomtesse Héricart de Thury are synonymous. The fog thickens. Mr. Wm. Thomson says that "Garibaldi has the property of enduring more frost when blossoming than any other variety."

— A CORRESPONDENT "J. L." informs us that he has grown *MASTERS' PROLIFIC CUCUMBER* for several years, and has found no other to equal it for bearing either in summer or winter. "It is," he says, "well named Prolific, for you may cut a brace or two almost every time you want them. It grows from 10 to 12 inches in length; it has a short neck, and is very tender and good-flavoured."

— AMONGST the foreign productions in COVENT GARDEN MARKET we recently observed some fine heads of Globe Artichokes, which we were informed had been sent from Marseilles. They appeared to be of excellent quality, and were as fresh-looking as if only brought from Fulham.

— FEW plants are more easy of cultivation in pots than the CHRISTMAS ROSE, *Helleborus niger*. Of late years this valuable old plant has become extremely popular, as affording large white flowers in the depth of winter, when such flowers are always valued. The Christmas Rose grows and flowers freely in 5 and 6-inch pots, which need only to be plunged over their rims in the garden in summer and be removed to a cold frame in the autumn, to aid their flowers in expanding and keeping them clean. The plants do not need to be potted oftener than once in two years, as they are somewhat impatient of having their roots disturbed. Plants thus established in pots are very valuable for the decoration of the greenhouse and conservatory.

— THE weather for several days past has been extremely wet in London and its vicinity, and garden ground, except where very light, has been totally unworkable. The daily rains have been accompanied by mild temperature; and many green crops, such as Spinach, Cabbages, Lettuces, &c., are growing freely—possibly too freely, for should a term of frost suddenly occur these crops would not be likely to resist its severity. The winter's supply of green vegetables which at one time were so prospectively scarce, is so far equal to the demand, and both green crops and root crops are plentiful and good. Slugs and snails are also plentiful, and are making the most of the mild weather. The season has been favourable for the planting of trees and shrubs, and trade in these has latterly been brisk in many nurseries.

— MR. MERRYWEATHER, Southwell, Notts, has sent us fruit of a kitchen Apple named *BRAMLEY'S SEEDLING*, a variety which we are informed is rapidly rising in public favour in the midland counties. The fruit is large, in appearance somewhat resembling Ecklinville Seedling, and is very heavy. The flesh is white, juicy, and melting, and has a brisk sparkling flavour. If this Apple sustains its character as being as "hardy and free in growth as Blenheim Pippin, and as productive as Dumelow's Seedling," it cannot fail to become valuable for orchard-planting. We will submit the fruits to a more careful examination, for it appears to be a meritorious variety. We should like to know its history.

— We have received from Mr. Bell of Clive House, near Alnwick, a new black SEEDLING GRAPE of great promise. It resembles the Black Alicante more nearly than any other variety, but is decidedly superior to that fine-looking Grape. The berries of the seedling are of the same shape as those of Alicante, are perfectly black with a leathery skin and stout warted footstalks. It is evidently a free setter, every berry being equal in size, closely packed, and well formed. The flesh is firmer than that of the Alicante, and the flavour and quality are certainly superior, although the bunch was not in perfect condition. We think highly of this Grape, and con-

gratulate Mr. Bell on raising such a distinct and promising variety. Mr. Bell's vineries were described in our columns on page 420.

— THE best kinds of *VARIEGATED HOLLIES* are deserving of more attention than they generally receive as winter decorative plants. For balconies, terraces, window sills, halls, and staircases, also for lawns, shrubberies, and flower beds, these bright and cheerful shrubs impart colour and beauty which cannot be equalled by any other hardy plant. No Coleuses in summer are so distinctly bright as these Hollies in winter, yet there are very many gardens which do not contain them. They are villa-garden shrubs *par excellence*, and should never be forgotten at this the period of planting time. Moderate-size shrubs remove safely from now until April when the weather is favourable.

— AT the SMITHFIELD CLUB CATTLE SHOW Messrs. Sutton and Son, the Queen's Seedsmen, Reading, have an imposing stand. The whole of the specimens are of that clean growth which denotes great care in the selection of the stocks, the importance of which cannot be over-estimated. The back of the stand is occupied with a collection of Grasses, consisting of upwards of three hundred different varieties, and including all those which Messrs. Sutton use in the preparation of their Grass-seed mixtures. It is most essential in laying down land to Grass to sow such kinds as are suitable to the peculiar geological formation, and this has been a special study of the firm for well nigh half a century. Among the Potatoes are Sutton's Redskin Flourball and Sutton's Hundredfold Fluke, as well as their new late white kidney "Magnum Bonum." This, they say, promises to be one of the best white kidney varieties in cultivation, being very robust in habit, possesses a strong constitution, and is remarkably free from disease, while it is mealy and an extraordinarily heavy cropper. Messrs. James Carter & Co. have a similarly large and good display at the same Show, which we will notice further next week.

## NOTES ON VILLA AND SUBURBAN GARDENING.

THE conservatory or small greenhouse will be the principal attraction to amateur gardeners now and for some time to come, and to render the enjoyment of these structures complete the plants must be kept perfectly clean and healthy. This cannot be done without constant attention. Means should also be taken that the interior of the house be kept clean in every part. Every plant should be looked at, and all decayed leaves should be removed; all damp should be dried up by gentle fires in dull or wet weather, and watering should be done in a more careful manner than at any other time of the year. Persons who are not practically familiar with plant culture may easily make very serious mistakes in watering. However, it must not be considered that a plant will require as much water in winter as in summer unless it is subjected to a very high temperature, and here is when judgment is needed; and as some plants require more water than others, those which are over-watered are soon destroyed.

The object of watering should be to prevent an amount of dryness being reached which is injurious to the plants, and, on the other hand, not to apply water in excess of what the plants really require, for in that case the soil becomes gorged and soddened, and the plant languishes. If cultivators like to work within these limits there need be no fear of their plants suddenly going wrong.

Scarcely any of the ordinary greenhouse plants will bear growing on quickly in these dull months, for if so the growth is weakly, and when the time for flowering comes the flowers are not only small but the colour is imperfect. Avoid overcrowding as much as possible, because air ought to circulate freely among the plants if they are to be kept healthy; and plenty of light too is an indispensable element—quite as much so as air, and in order to have light the plants should be kept as near the glass as possible. Let watering be done before mid-day, so that the plants as well as the house be quite dry before night. A continual dampness of the house must be particularly avoided, for it brings on mildew and many other diseases.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

THERE has not been much done in this department different from what was detailed in a previous number, and the instructions there given (page 451), if they have not been followed out, ought no longer to be delayed. The present is the best time for planting all kinds of fruit trees; and if the ground is not yet prepared it may still be done. But although the present is the best time for planting it is not the only time, as the trees may

be successfully planted until March; but those who cannot plant their trees until that time ought to purchase them at once. The nurserymen will either send the trees home, when they can be laid-in until wanted, or they may be marked and sent at any other convenient time. The principal preparation of the ground required is trenching and draining. In soils not naturally drained the latter operation is the most essential. Apple trees in undrained soil soon become covered with mosses and the fruit with fungus, and the fruit is very inferior to what it would have been on well-drained soil.

The distances for planting must also be considered. Mr. Rivers has recommended 3 feet apart for trees on the dwarfing stock. At Clements near Ilford a large plantation was made and the trees were planted 6 feet apart, but it was soon found that this was too close. Every alternate row was then taken out, which left the trees 12 feet one way and 6 the other. This was also found to be too close, and every alternate tree was taken out of the rows, which left the trees as they are now 12 feet apart, and this is a very good distance for bush trees on the Paradise stock. Orchards are not usually planted with these trained bush trees, but they are preferred by many growers to the usual system of standard trees with straight stems from 4 to 6 feet high and the trees 20 feet apart. In some soils the dwarf-trained trees might be even 6 feet apart. In heavy clay the trees have a great tendency to produce fruit when only three or four years old, and in lighter soil to run more to young wood. In the soil at Sawbridgeworth the two and three-year-old trees may be seen bristling with blossom buds with very little young wood, and from observations obtained amongst such trees Messrs. Rivers in their catalogue recommend the trees to be permanently planted much closer than is desirable on light soils.

Those who plant their trees from 18 to 20 feet apart, if the ground is not laid down with grass, will crop between the trees, but this system of cropping the ground must not be carried too far. Sometimes Strawberries are planted between the trees and give a profitable return, but any kitchen-garden crops may be cultivated, those of a dwarf habit to be preferred. The first year the ground may be cropped to within 2 feet of the trees, next season 3 feet, and the third year the ground ought not to be cropped nearer than 4 feet, but much will depend upon the size of the trees and their growth after planting. In digging the ground great care is necessary to avoid injuring the roots. It is better to dig over them, but it must be done carefully with a digging fork; indeed, this implement is much more efficient for all purposes than the heavier and more clumsy spade. Apple trees are by far the most useful to plant in an orchard, and bear the most regular crops. Some of the more hardy sorts of Pear, Plum, and Cherry trees may be planted, but birds have a great fancy for Cherries, and they will have them whatever precautions are taken. Pears and Plums are an uncertain crop.

#### PINE HOUSES.

We find that to have Queens ripe in May it is necessary to start them into growth by the middle of this month. Our plants have been kept dry at the roots and the atmosphere quite cool, and very little artificial heat has been necessary for keeping up the temperature to 55° or 60° at night. When the house is started the temperature is raised about 5°. The plants are thoroughly watered at the roots, and it is well to turn the tan beds over and to mix some fresh tan with the old material; this will sometimes raise the temperature of the bed too much—indeed, we have occasionally had the bottom heat raised to 110° from merely turning the bed and adding a little fresh tan to it. This is far too much: 90° or even 95° as the maximum is sufficient, and if the thermometer stands above those figures the pots must not be plunged to more than half their depth in the beds. A high temperature in the beds does more harm than many people are aware of. If the pots are well filled with healthy roots the plants generally throw up fruit freely, but it is as well not to give too much water until signs of fruit can be seen deep in the centre of the plants; even then too much water may be applied. If the pots are plunged to the rims in moist tan it is not likely that the roots will want water more than once a week, or perhaps not so often as that.

One of our fruiting houses has been cleared of plants, and in another house are Pines in various stages of development. They will be placed in a house where they can be kept warmer, 65° at night with the temperature rising to 75° or even 80° when the sun shines brightly. The change to a warmer house will be beneficial to the plants, and some of them will throw up at once, others will start growing a little before doing so, but the latter plants will no doubt produce the best fruit, and if it is later so much the better, as we do not require many Pines to be ripe at one time. The temperature of the succession house is best kept about 55° for a month longer; as the days lengthen after Christmas this may be gradually increased.

#### PEACH HOUSE.

The instructions as to preparing the trees when in a dormant state is so similar to that given under the heading for Vines, that it is not necessary to say much about it here. The earliest

house ought to be prepared at once if it is not done, and if any brown scale has formed a lodgment on the trees it ought to be removed by washing it off with rain water in which has been dissolved some soft soap. Any Peach aphides which may be clustering on the young wood ought to be removed in the same way preparatory to painting the trees with a mixture of soft soap, sulphur, and a little tobacco liquor. This ought not to be made quite so strong as has been recommended for Vines, else it is likely to cause the buds to drop.

A not uncommon mistake with the inside borders of Peach houses is to allow them to become too dry, and when water is applied abundantly to the roots it is not unlikely that many of the blossom buds will drop off. In places where gardeners are required to keep up a succession of Peaches from May till November it is quite time that the first house was started by giving the border a good supply of tepid water, and closing the house early in the afternoon to take advantage of sun heat. The night temperature for the first ten days ought not to fall below 45°; for the next fortnight 50°, rising by the first day of the new year to 55°. The trees ought to be dewed over on the mornings of dull days with tepid water, and when the sun shines in the afternoon shut up about 2.30, and again syringe them. A pot of rain water ought always to be standing on the hot-water pipes for this purpose.

#### GREENHOUSE AND CONSERVATORY.

In previous numbers mention has been made of the care required with hardwooded plants during the winter months. At present the minimum supply of water should be given to them, and the quantity required will depend much upon the state of the roots of the plants and the time since they were last potted. We have some specimens potted last September, and the roots, of course, have not nearly filled the fresh compost. These require but little water; but what they do require must not be given in dribbles, but the plants ought to be allowed to become sufficiently dry, and then enough water must be given to moisten the whole ball of earth. This is the right system of watering with all plants, but it ought more especially to be insisted upon when delicate plants are in question at the dulllest period of the year. Any water that falls upon the paths ought at once to be wiped up, and all the watering ought to be done early in the day.

We have tried propagating our own plants and also purchasing from the nurserymen to keep up a supply, and unless in the case of new, very rare, or choice plants, it is not worth while to propagate them ourselves; they can be bought much cheaper, and the labour that is spent on their propagation and after-management be advantageously diverted into other channels. We generally buy a few about July or August, and the plants, as a rule, require at once to be shifted into larger pots. August or early in September is as good a time as any to repot them. They will usually require another shift in the following spring—say February or early in March.

The present damp muggy weather has been trying to plants in flower. The *Crocea saligna* major stands damp better than any other flower we have at present. *Lapageria rosea* and *L. alba* have both suffered, and the perpetual-flowering Carnations have not opened well owing to the want of sun, and the petals occasionally become mouldy; these fine flowers open well in a night temperature of 50° and a rather dry atmosphere. Damp is very injurious to them; all mouldy petals ought to be promptly removed to prevent further decay.

A few plants of *Cyclamens* may be moved into a house where there is a night temperature of 50°, with considerable ventilation during the daytime. They will come in earlier than those in the ordinary greenhouse temperature, and prolong the season of these useful spring flowers. Large plants of *Cyclamens* are apt to suffer from damp and mould settling on the flowers in the centre before they rise above the foliage. They ought to be watched for this, and when water is applied it ought to be done by carefully pouring it in round the sides of the pots. The plants must not be placed too closely together, and they ought to be as near to the glass as possible.

Stage and fancy *Pelargoniums* should be placed in a light airy position, the plants to be kept free from any decaying leaves, and the house to be frequently fumigated to destroy green fly. *Cinerarias* also are kept near to the glass, and as the plants increase in growth the shoots are tied out. Aphides are particularly fond of feeding on the under sides of the succulent leaves, and whether any are observed on the plants or not it is best to fumigate frequently during the winter months.—J. DOUGLAS.

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

NEWCASTLE-UPON-TYNE. March 21st and 22nd, 1877. Messrs. J. H. French, Benwell House, and J. Taylor, Rye Hill, Hon. Secs.  
WISBECH. June 28th. Mr. Charles Parker, Hon. Sec.  
ISLE OF THANET. August 30th. Mr. C. D. Smith, Hon. Sec.

## TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*J. M. and others*).—The book you require is published at this office, but is now being reprinted.

GRAFTING VINES (*A Working Gardener*).—The Grape sent is the Black Morocco, which is a good late Grape, requiring stove heat to ripen it perfectly, and special care in setting its berries, a globe of liquid frequently forming on the stigma and impeding fertilisation. This moisture should be removed by gentle agitation, so that the pollen may come in contact with the stigma. You may graft or inarch any of the Vines you name. You will find useful information in our Nos. 617 and 896, which can be had post free for 7d.

WEST INDIAN PLANTS (*A. Henry*).—There are hundreds that grow wild in the West Indies that are now cultivated in our glazed structures; but it is impossible to select from those plants. Tell your friend to bring cuttings, or seeds, or bulbs of those which are beautiful.

FINES DECAYING AT THE CORE (*E. B.*).—The cause of this is either giving the plants too much water after the fruit has become nearly ripe, or applying manure water at that stage.

VENN'S BLACK MUSCAT GRAPE (*Reader*).—This variety has not yet been sufficiently tested as a late Grape, but we do not think it will keep so well as Lady Downe's or Alicante, but we certainly advise you to try it in your late house with those two sorts.

PEAR TREES UNHEALTHY (*C., Halifax*).—Judging from the spur sent we suspect the cause of the unhealthiness of your trees to be ungenial and possibly water-logged soil. If the soil is wet drain it thoroughly to a depth of 3 feet, having a clear outlet for the water. If the subsoil is not wet, then the condition of your trees is attributable to poverty of the soil. The remedy in this case is to remove the surface soil, just baring the roots, and cover them with the best soil you can obtain, and over the soil place a good covering of rich manure. Limewash the trees, or, what is equivalent, dust them with dry lime when the branches are wet. If blossom buds predominate over wood buds remove some of the former, especially taking off any at the tips of the branches. Your aim must be to induce clean healthy young shoots, not permitting the trees to blossom profusely, and your trees will regain their vigour.

RANUNCULUS.—In my paper on the Ranunculus there is an error. I am made to say 'as to soils,' when it should have been 'as to sorts.'—*D., Deal.*

SMALL ORCHARD (*Constant Reader*).—Go by rail into Devonshire or Somersetshire and search.

SUTTONS' RED-SKIN FLOURBALL POTATO (—).—The produce from 1 lb. of seed as exhibited at Reading by Major Thoyte was 267 lbs.

LINE (*A Constant Reader*).—To improve the staple the quantity you name is far too small. If to furnish calcareous matter to the crops it is enough.

WOOLLY REFUSE (*T. M.*).—It would be long in decomposing, but, like all animal refuse, would be fertilising when decayed. It would be most useful if applied to a heavy soil.

LAWTON BLACKBERRY.—*J. M.* and others wish to know where they can purchase plants of this Blackberry.

BAEKEET PLANTS UNHEALTHY (*Nolens Volens*).—The cause of the plants not succeeding is due to their unsuitability for so dry an atmosphere. Musk and Lobelia like moisture, and they with Geraniums are at too great a distance from the window. More suitable plants for the position would be *Campanula garganica*, *Saxifraga sarmentosa*, *Mesembryanthemum cordifolium variegatum*, *Sedum Sieboldi*, *S. azoideum variegatum*, *Antirrhinum procumbens*, and *Cerans flagelliformis*.

HEATING PLANT-PRESERVER (*A. M.*).—You will need a 2-inch pipe all round the frame so as to exclude frost, and if you contemplate forcing, 2-inch hot-water pipes all round the inside of the pit will be necessary. We do not think you can satisfactorily heat the pit from your present boiler, as all the pipes you would have would be returns, and all below the boiler, besides which water would be repeatedly drawn from the hot-water cistern, or boiler, or both, and you would need to disconnect the present return pipe to the boiler from the hot-water cistern, so as to cause the water to return by the frame pipes. The action of such an apparatus would be very sluggish and uncertain in its action, and we think would prove unsatisfactory. We advise a separate boiler, but there is no question but that the frame would be more economically heated from the house boiler were it not that the boiler is above the level of the floor of the frame.

NAMES OF FRUITS (*Connaught Subscriber*).—Knight's Monarch. (*J. Bryan*).—1, Tower of Glamis; 2, Golden Noble; 3, Toker's Incomparable. The Pear was quite rotten.

NAMES OF PLANTS (*J. E.*).—1, *Chrysanthemum pallens*; 2, *Pyrethrum frutescens*. (*J. P.*).—1, *Schizostylis coccinea*; 2, *Veronica salicifolia*; 3, *V. angustifolia*. (*A. Novice*).—1, *Aster* sp.; 2, *A. Novi-Belgii*; 3, *Lonicera japonica aureo-reticulata*. (*S. J.*).—1, *Calanthe* sp.; 2, *Maxillaria picta*. The shrub is *Benthamia fragifera*. (*T. R. L.*).—2, *Asplenium bulbiferum*. 6, *Lastrea dilatata*; 7, *L. spinulosa*; 8, *L. Filix-mas*; 10, *Polystichum argulare*, var. The remainder immature. (*H. S. K.*).—1, *Cytisus canariensis*. Material insufficient of remainder. (*Ban Ousel*).—1, *Pteris serrulata*; 2, *Adiantum formosum*; 3 and 5, material not sufficient; 4, *Selaginella cuspidata*. (*Woodcote*).—2, 3, 5, 6, 7, monsters of *Filix-femina*; 1, of *Filix-mas*; 4, of *Polypodium vulgare*. (*J. H.*).—1, *Nephrolepis cordifolia*; 2, *Aspidium falcatum*; 3, *Adiantum hispidulum*; 4, *Pteris cretica*; 5, *Pteris flabellata*; 6, *Pellaea rotundifolia*. (*Lady Subscriber*).—1, Material insufficient; 2, *Adiantum formosum*; 3, *Nephrodium setigerum*. (*Mrs. Newman*).—1, *Pteris cretica*

var. *albo-lineata*; 2, *Pellaea rotundifolia*; 3, *Pteris serrulata*. Dip the plants in soft-soap water occasionally to prevent thrips. (*A Constant Reader*).—*Cerinthe aspera*, Rough Honeywort. (*Mr. Downes*).—*Urceolina pendula*. (*T. R.*).—We do not remember your Ferns; if received they were sent to the botanist who attends to the subject, and will be answered by him.

## POULTRY, BEE, AND PIGEON CHRONICLE.

## BIRMINGHAM CATTLE AND POULTRY SHOW.

DECEMBER 13TH, 14TH, 15TH, 16TH, and 18TH.

THE unprecedentedly large entry received in every department proves the soundness of the change of date adopted by the Council this year; nor will the increase in numbers, we are assured, be obtained by the sacrifice of anything in the quality of the exhibits. On the contrary, visitors to Bingley Hall will there see together the conquerors in their various classes at the London, Edinburgh, Leeds and Oakham Shows, which are all held the week previous to Birmingham, and will therefore act as feeders to the great midland Show.

The show of potatoes will extend to nearly four hundred dishes, the prizes being most liberal in this section.

The Poultry and Pigeons, which number over 2700 pens, would, if placed in a single line, reach something like a mile and a half, and will be a grand exhibition, the time of year being most favourable to the display of plumage.

The charges for admission have been somewhat modified; but on Wednesday, the day of judging, will remain at 10s., except for life members, who receive a free pass for the whole Show. On Thursday, the fashionable day, on which day the Dog Show also opens, the admission is 5s. until five o'clock, and 1s. after. On Friday, 1s. all day; and the same until two o'clock on Saturday, when it is reduced to 6d., which price is also the figure for the whole of Monday, the last day.

The arrangements of the various railway companies will be on a most liberal and extensive scale. Excursions will pour in daily from all populous parts. Hereford, Shrewsbury, the Potteries, Yorkshire, Derby, and the colliery districts, Northampton, Bedford, Oxford, Worcester, and all intermediate places will have special facilities at greatly reduced rates, either by one or three-day trips; whilst, to come nearer home, trains will run from Walsall, Wolverhampton, Stourbridge, and Kidderminster every half hour, or as often as required.

## BRISTOL POULTRY SHOW.

DORKINGS as usual headed the list, and therefore first demand our attention. Taken all round they were not equal to the Show in some former years at Bristol, probably a number of good birds are being kept back for Birmingham. In Coloured cockerels first came the Palace cup bird, in blooming condition; he has grown much since the Palace, and we thought he deserved the cup for best Dorking cock; still this mattered little, as his owner's Silver-Grey cock had it. Second was a bird of much the same type, a medium colour but not so large. The third we did not admire; there is something odd about the back of his comb, and he has much white in breast and hen feather of tail; his feet are white and good. Fourth we thought decidedly better, he is very dark and promises to grow much. We admired Mr. Hamilton's very highly commended bird, but thought his legs rather too red. The pullets were not a good class—first was excellent in colour, not a striking bird or very white in feet; she is long and will probably make a good hen. Second a well-shaped square pullet. Third rich in colour and large, but a little ungainly. Fourth as good as any in the class, broad and square. The second and very highly commended (Cresswell and Watson) were both good, of the old-fashioned colour, slightly laced. We are glad to see this colour again coming into favour. Cocks were but a small and poor class. First was a massive Dorking in good condition. Second a nice dark bird, but purple in comb and not well. Third White, but rather gouty in feet with a drooping comb. Hens were a much better class, and as at the Palace the birds were in wonderful condition. First a capital bird, we think not her owner's cup bird at the Palace; she is very large with good white feet. Second also good in feet, a long bird too stilty. Third a good hen in colour, and square in shape. These three prize birds were as good hens as one could wish to see. 43 (Bartrum) is a beautiful dark bird, but she seemed rather shaky on legs. Silver-Grey cocks were few. First a very fine and silvery bird, he was awarded cup for the best Dorking cock; he is the bird which we mentioned as hardly receiving his due when third at the Palace. Second well through the moult, but yellow in hackle and white in breast. Third a moderate cockerel. In hens a grand old bird was first; she is nearly eight years old, and figured in the prize lists as long ago as the year 1869. Second a large hen, browner than the first. Third not good in size or colour. Whites.—First, the first Palace cockerel, he is a grand Dorking in shape, but now becoming rather coarser in comb. Second a very fair cockerel, which we

think we mentioned at the Palace. Third Mr. Boissier's glistening White bird. Dr. Snell showed a cockerel in this class suffering severely from the "new disease;" the bird was very properly sent home with some of his companions on the second day of the Show. We only trust that the complaint may not be disseminated from him, and earnestly hope that exhibitors will not risk causing irreparable loss to their neighbours by sending birds about in such a state. The first White hen was magnificent, the cup bird twice at the Palace and at many other places. Second a poor little bird without proper development of the fifth toe. Third a fine hen, but with one foot somewhat crippled. We should certainly have put Mr. Boissier's highly commended bird second. 73 (Haynes) a fine pullet but yellow.

**BRAHMAS.**—*Dark.*—Mr. Lingwood's Palace cup bird was again to the fore; his head is one of the smallest and most beautiful we ever saw. Second a very nice bird with good orange legs; his comb is a little too high behind, his breast minutely and prettily ticked with white. Third too large in tail, otherwise a very good bird. Fourth hardly equal to the first three, still a nice bird; he does not rise quite enough towards the tail. Mr. Hamilton seems likely to become as great in Brahmas as in Dorkings. We thought 296 (Pritchard) the next best to the prize birds. The class was not good throughout. First-and-cup in pullets was the Palace cup bird, which we have before described. Second a Silver-Grey bird with small and delicate breast-pencilling, much to our fancy, though a little white towards the throat; her shape is nice. Third well marked all over, specially on the back. Fourth poor in leg-feathering; hardly Mr. Lingwood's type of bird; her pencilling clear all over, though rather blunt. The old birds were better than the young, and in better condition. The first cock was in strikingly blooming trim for an adult; the gloss on his wings and tail was wonderful; he is black-breasted, hooked, and moderately marked in hackle. Second not in good condition, fine in shape and foot-feathering, with densely striped hackle and much white in tail. Third a true Lingwood type of cock; we think his condition should have placed him second. Hens were a capital class. First was as perfect a bird in the whole of her markings, especially on the back and cushion, as possible; she is a little deficient in size and leg-feathering. Second a large and well-pencilled bird, hooked, and a little browner than the first. Third not quite so massive or heavily feathered as the second. 340 (Lingwood) a very fine heavily feathered hen. There was hardly a bad bird in the class. *Light* were by no means equal or nearly equal to the Crystal Palace classes, though many capital birds were shown. The first cockerel was very good in style, his head and comb neat, neck-marking clear, but perhaps a little too much pencilling on saddle. Second we think the Cirencester winner, very good in shape, a little long in tail. Third fine in breadth and cushion; he is too long in shank, and his comb rather high at the back. Fourth a very pretty bird, too dark on the back, but when he stands well up his neck hackle covers this. 352 (Miss Borrow) good, comb a little coarse. 359 (Lady Dartmouth) good in colour and breadth. Pullets.—The first winner is not large, but very good in colour, form, and hackle; her tail feathers beautifully laced. Second a finely grown well-feathered pullet with beautiful neck hackle. Third very large, a little gawky. Fourth as pretty a bird in style and shape as any in the class, but deficient in hackle-marking. Mrs. Crook's very highly commended bird nice but creamy, otherwise she must have been in the prize list. 383 (Mrs. Bain) another good bird; 393 (Watson) nice in shape but tinged; 394 (Dean) small but pretty; 395 (Horsfall) very good, and we thought worthy of at least a "very highly commended;" 399 (Mrs. Wolcombe) the largest bird in the class, but very like a hen about the head. This class was decidedly a good one. In cocks, first of course was Mr. Horsfall's wonderful old bird. We need not again describe him; he stands up so well in his pen that he is always seen to the fullest advantage. We fear he is a little inclined to a yellow tinge. The champion cup was awarded to him, and we thought most deservedly. The second cock is a grand bird, if he were a little shorter in leg he would be better. Third, barring hocks and long legs, our ideal type of bird. His foot-feathering is splendid, and if he could only be cut down a little he would be an admirable cock. The very highly commended bird was good, but spoilt by a yellow tinge. 409 (Mrs. Drummond) a nice bird. 416 (Mrs. Tindal) broad, but with much ssp in the feathers. The first hen was good in shape and every point all round; her tail was a little lighter than we like, and her size small. Second a much larger hen, but too long in leg; in fact, legginess seems the prevailing fault in Light Brahmas. By some error no award of third prize was announced. Mr. Bloodworth's very highly commended bird was good in shape and feathering, but too creamy in colour.

**HAMBURGERS** were not striking classes, the Golden-pencils and the Blacks being the best. *Golden-spangles.*—First in cocks a nice bird all round, with good natural comb, not sufficiently marked on wing; he was too timid to show his carriage off in the pen. Second a peculiar bird, good in carriage and very dark in colour, his comb is very narrow for a Spangle; we observed

that his eyes were a little scurfy. Third a pretty stylish bird, we liked him as much as any in the class. The cup for the best Hamburg hen went deservedly to the first Golden-spangle; she is a beautiful bird with most lustrous moons evenly distributed over a rich ground colour. Second another good bird in nice condition, not quite so perfect in spangling. Third fair, with large not very even spangling. The *Silver-spangles* were not very good. First cock a pretty bird with natural not over-good comb, and earlobes tinged. Second a very moderate specimen with splashed tail and yellow hackle. Third the best bird in style and form, he had a little too much white in breast, and had apparently once had a comb too heavy on one side which had been "improved." The first hen was pretty with even mooning all over and not too black in general effect. Second another of the same type. Third too black with spangles running together. *Golden-pencils.*—The cup for cocks went to this breed. The winner is very pretty, beautiful in comb and colour and with a nicely edged tail. Second had a nice honest comb; we do not ourselves like so much contrast as he has between the colour of neck-hackle and saddle. Third a small neat bird, his sickles are black with a curious bronze bar across them. The first hen was good all round and in good condition, her neck-hackle not clear enough. Second out of condition, well barred. Third a fair bird, coarse in pencilling. *Silver-pencils* were, as everywhere now in the south, poor classes. The first cock very yellow but with nicely laced tail. Second and third very indifferent. 541 (Dr. Snell), very unhealthy; we begged the Secretary to have him removed. The first hen was well marked but poor in comb. Second fairly marked with a cloudy hackle. Third nearly white in breast. *Blacks* were well-filled classes; cocks numbered seventeen, and nearly every pen was noticed. Hens twelve. It is unfortunate that a breed like this, of which lustre is one of the first points, should not be placed in an upper tier in the best light, especially so in a place like the Drill Hall at Bristol, where there are so many light positions. Such, however, was not the case, and these classes were in a very indifferent light. The first cockerel was a lovely bird all round, and found a purchaser at the auction; his carriage, comb, and lobes were all perfect, we thought he might be a little more lustrous. Second a very glossy-green bird. Third a smaller bird, also good in colour. Mr. Serjeantson's very highly commended cockerel looked to us a capital one. Of the winning hens the first and third were good in shape and lovely in colour. It struck us they would make a good match. Second a nice hen in comb and colour, a little heavy in tail.—C.

**COCHINS.**—These classes were again on the whole extremely good, the Whites particularly so; in fact we seldom remember to have seen better, and we hope that those who so persistently assert that the breed has deteriorated were at Bristol to see for themselves. The *Buff's* we thought the weakest in quality, while there was an improvement in the Blacks. In *Buff* cockerels Mrs. Tindal's Palace bird was again first. His colour is very good, but we do not admire his head, still he was well in his place. The second and third were both fine chickens, but both seemed a little faulty in colour. We liked pen 82 (W. A. Burnell), but his wings were also a little tipped in colour; 77 (Mrs. Allsopp) we admired very much. In pullets we did not think the general quality nearly equal to the Palace class. The first was the largest, but the second the best in colour; pen 91 (Capt. Robin) looked very aged indeed. In old cocks we liked the third best; he is full in the hocks, but is a wonderfully well-coloured bird, and has peculiar hackle feathers growing among his fluff. Hens were good, the first capital in colour, large, and shapely; the second was also very good; 115 (Percival), was not of good colour, but of admirable shape. In *Cochin* cockerels we liked the awards; the first was a fine upstanding bird. In pullets the first-and-cup had a look of age about her head; she was well marked. Second and third being prettily pencilled, but only fair in size. In adult cocks the first was good and well feathered; second was nearly equal to him. In hens the winners were all well pencilled and of good size; 161 (Jones) we liked very much, as too we did 159 (Pope). *White* cockerels were capital, the first large, white, and showy; but we preferred the second, which is the first Palace bird; he has much more depth and saddle. Third we did not like; he was the bird we said was "too Pouter-like" at the Palace, and we still think the same. Pullets were admirable, and the winners well selected. Perhaps first and second might have changed places, but they were both good birds. In cocks we liked the shape of the first one very much; the second is the cup Palace bird; the third we also liked perhaps as well as any. Mrs. Holmes's (202) was a grand bird, and of snowy whiteness. Hens were a wonderful lot. There were half a dozen really good, and we liked 222 (Acton Tindal) better than the second-prize bird; the latter looked small and tucked up; 226 (Turner) was very good, but not in feather. In *Black* cockerels the first was we think the Palace bird, looking capital; second a wonderfully showy cockerel, good in colour and symmetry; third also very showy and good; 232 (Storer) was much hooked, or else of marvellous colour, and was a bargain to someone at the reduced



price of 30s. The first pullet had an ugly comb, or else was large and lustrous; second and third both good birds. In adult cocks the first was good all round, very black, broad, and large; second also a capital cock, but wants more time; third very good too. In hens we liked the second best, but all three prize birds were very good. The third had yellow legs, and was claimed for £6 6s. We hope to find the Buffs better at Birmingham, but in many respects the Cochins were up to a high standard.

**SPANISH.**—These were good. The cup went to a cockerel with very good face and in fair condition; it was claimed at the auction for £10 10s. Second also a showy bird, with a good comb and face. In pullets the first came in well, and were well shown; second and third both good; 465 (Jones) we much liked, and 473 (Palmer). In cocks a neat bird was first, only in at £3; he was a bird with a well-shown face. Second very nearly as good, with much quality about him. In hens the cup bird was well to the front, but there were many good birds in the class, and after the winners we much liked Mr. Rodbard's and Mr. Palmer's two birds.

**GAME.**—There was a fine show, the birds being well up in condition mostly and looking well. Both the cups went to Black Reds and both to Stowmarket. In *Black Reds* the first cock was an adult, a capital bird, and well in first; his tail rather coarse, but his colour was very good. Second also a showy bird; third was a stylish and good-coloured cockerel. On going over the class with a Game breeder we thought 584 (Dutton) deserved some notice. He looked like the third in the undubbed class at Oxford, and we have since learnt that the bird was looking poorly when they were being judged, suffering perhaps from indigestion, for he was in good looks when we saw him on the Saturday. In hens the cup bird was very showy and well-shaped, but we did not like her comb; second had much style about her; and the third was a good bird, neat in shape and good in colour. She was claimed at the auction. In *Brown Reds* the first cock was smart in carriage and had a capital head; 607 (Cock) an undubbed bird of good colour. The first *Brown Red* hen was capital in colour, and very stylish; third we liked also, but she was a little small; 619 (Phillips) was also a good bird. In the Variety class a good Duckwing came in first, bright in colour and good in head; second went to another good Duckwing, a bird good all round, and the bird cup at the Palace we believe; third a smart yellow-legged Pile. In hens all the prizes went to Duckwings, and all birds of quality.

**MALAYS** mustered thirty-one pens, and seventeen of them were mentioned. We were sorry not to see Mr. Hinton in person there as well as in feather, for it would have warmed him up this chilly weather to see his old friends so strongly and well represented; £11 12s. 6d. in entry fees, and £8 in prize money. Paying at last are the old loves, and paying well. First a great cockerel—tall, bony, angular; second another almost as tall, as bony, as angular, and in better feather; third narrow in tail, but good in shape. 747 (Brooke), very good indeed. A grand pullet won first in the next class; capital in colour and good in size. Second and third two well-grown birds; true Malays in shape. There were three or four more as good almost, for it was a fine class. Of them we liked 765 (Lowe), 771 (Ridley), 767 (Baker), and 763 (Joint).

**FRENCH** four classes, and all well filled. We are sorry we were unable to give a report of these at the Palace, but up to the last we hoped "D., Deal," would have turned up, but sad to say he did not. In *Houdans* a grand old cock came in first; his crest hardly ready, but his colour good. Second another old bird; large and well-footed. Third a fair cockerel. In hens our old friend came in again first. Her colour is our *beau idéal* of a perfect Houdan hen. After the prize birds we liked 693 (Scott) and 689 (Wood). In the next class the cup went to a large *La Flèche* cockerel, handsome in its ugliness; second a good old *Crève* of lustrous colour; third another adult of good quality. In hens first a *Crève*, large in crest and of massive shape; second a *Crève*, also good in crest and colour; third a *La Flèche*, large and cheap. 730 (Vickery) a large hen of good colour; 729 (Fowler) a square-shaped hen, bright in plumage; 742 (Arnold) a Blue *Crève*, rather peculiar, and certainly handsome, called in the catalogue a "Cindered *Crève*," whatever that may mean. She was the colour of an Andalusian, and made a change among the Blacks.

**POLANDS.**—The Blacks were three ahead in numbers of the Golds and Silvers together. The cup went to a grand *Silver* hen, a bird with a marvellous crest, and of good colour. The second *Golden* hen was a fine one, bright in colour and good in crest. The second *Silver* cock was large, and with a grand crest, while the third *Golden* was another smart bird. In *Black* cocks we liked the winner. His crest is very full, and very large, and very white. We preferred several pens to either second or third, notably so pens 785 and 786, the Palace first and second winners. In hens the first was large in crest, and in very good condition. Second and third might well have changed places, the third being the most wonderful pullet of the colour we ever saw. 798 (Unsworth) was good in crest, and of a good

black colour. This breed has made more progress of late than any other breed we know of, and committees would do wisely to give them classes more frequently.

**LEGHORNS.**—Four small classes. In *Brown* cocks we think the earlobes won the bird first place, as second and third were in almost superior condition. The third bird was our choice for colour. In hens the first was not very bright, but large. One found a purchaser at 63s. Second very light, and generally good. In *Whites* the cup bird was rather small, or else good in earlobes and fair in colour. Second a smart bird with good comb. We thought the first *White* hen also rather small, but in good colour and condition.

**SILKIES.**—The first were perhaps the most even as a pair, the pullet peculiarly good in crest. We liked the second cockerel very much; his comb, too, has improved in colour. The third hen was much hocked, which we look upon as a disqualification, or else her crest and comb were remarkably good. 1019 and 1022 (Ferris) only contained single cockerels. 1023 (Stephens) had a cock with a large crest, but the bird was much out of condition. 1024 (Hudd) a fair pen all round, with moderately good points. On the whole the class was satisfactory.

**THE VARIETY CLASS.**—In cocks a pale Cuckoo Cochin was first, a Sultan of moderate colour second, and an ugly Plymouth Rock third. In hens a good Andalusian was first, a Sultan hen second, and a very moderate Cuckoo Cochin third. These classes we thought not up to the average. The Sale classes we will not mention, as we fail to see their use, and are averse to the system entirely when the prohibitive price does not reach £4 or £5.

**BANTAMS.**—*Reds* were all in one class; the cup pen most stylish and small. In the next class smart *Piles* were first, good ditto second, and pretty *Duckwings* of good colour third. *Blacks* were wonderfully good; the cup pen in grand feather and very lustrous. Second very neat in heads, as too were those in pen 984 (Earnshaw). The *Laced* made an exquisite class. Very beautiful *Silvers* first; good *Silvers* second, much reminding us of the first Palace pen; and deep *Golds* third. 996 (Leno) excellent *Silvers*, the lacing being really perfect. 1001 (Hodson) very good indeed. The Variety Bantam class was small—three prizes and three pens. First moderate Cuckoos; second *Black-booted*, very good indeed bar a few red neck feathers; third the *Frizzles*, with the ugly combed hen. In single Bantam cocks all three prizes went to *Black Reds*.

**WATERFOWL.**—*Aylesburys* only made six pens; all noticed, and all good. First well to the front. In *Rouens* the cup and second again went to Mr. Evans, whose name means quality; third very good in plumage. *Blacks* were nineteen pens strong, and many pens were of wonderful colour and excellence. The Oxford cup pen was first. The drake in the second-prize pen was very lustrous. But of the three prize pens we liked the third best. They seemed most even in colour as a pair; but in the whole class our choice was pen 1081 (Sainsbury). We thought them far ahead; the best in the class. They were the pen we saw at Swindon, and in our opinion, of their being the best pair at the Show, we believe most *Black Duck* fanciers who were present agreed. 1072 (Malden) was empty. In the Variety Duck class a pen of *Mandarins* in charming feather were first. Second went to the different coloured headed birds, which are variously named—viz., Variegated Shieldrakes, New Zealand Shieldrakes, Paradise Shieldrakes, and also rejoice in the name of Tadmora Variegata. Third went to lovely Carolinas. 1096 (Leno) good Carolinas; soon claimed at £4. *Geese* only made five pens. First good Toulouse, second Embdens, third Toulouse goslings. In *Turkeys* the first were well in front of the others. They were enormous in size and very good in colour. 1105 (Lang) were too late, or would have come in third we should imagine. We furnish full awards below, and believe for quality, though not in size, the Show was up to the high standard of former years.

Thus concludes our report of this Show, which was very similar to former shows at Bristol; the food bags in the same places, the arrangement of the classes in the same order, and, sad to say, visitors in their paucity seeming as usual to play puss-in-the-corner in the long and empty avenues. "Why don't the people come?" "Why won't the people come." A few exhibitors, the cheerful Secretary, the feeders, and half a dozen ladies make up the usual number of visitors to be seen at one time. We hope for the best, but we fear this last attempt will be no more a fortunate one than others have been in a pecuniary point of view, for patronise the Show by their presence the Bristolians will not do. As good as usual were the arrangements—well mixed food, coarsely cut chaff to floor the pens, green lettuce and cabbage leaves, all were there.

The Judges were Mr. Smith for Game and Game Bantams; Mr. Hewitt and Mr. Teebay, the latter gentleman taking the Cochins, Brahmas, Hamburgs, Silkies, and some of the Sale classes, while the former took the remainder.—W.

#### PIGEONS.

"We hope you will go to Bristol and report the Pigeons for us as usual; it seems to be your manor." Thus wrote one of

our Editors. So being "my manor" I must of course have a shot over it. And in truth Bristol seems the especial place to, and to have special attractions for, a west countryman. Bristol gives the name to the Channel that divides South Wales and England. As to big cities or great towns to the west of Bristol there are none: Bath "the queen of the west," Bristol "the city of the west."

I did not find the Show quite as large as last year—nearly four hundred pens less; of Pigeons, however, only fifty pens less. But then the birds were as a rule superior; and in Spanish fowls, Bristol's speciality, the birds were better than at the Palace. Would that I could note an improvement in attendance, but, alas! I cannot. The long alleys were empty of company, and seemed to be cleared and ready for children to play ball in. Why is this? Crowds come to the Bath Show: Well, Mr. Cambridge, you must try cats; rely upon it ladies will come and see them, and then get by degrees a higher taste. But leaving cats for inspection another year, all's well, I stand before the Pigeon pens.

**Carriers, Black.**—In both cocks and hens Mr. Maynard took first over Mr. Baker. This in Wiltshire phrase was "being *main-hard* upon Baker." The first-and-cup cock was deserving its place, but the second was remarkably fine in beak-wattle, while the third was a fine-feathered and well-shaped Carrier. The second hen was young and very promising. As to the Duns, the first (Fulton) was a bird of colour, size, and style; second not its equal; third too down-faced, and lower beak-wattle small. The second Dun hen I preferred to the first. The Any other coloured Carriers were of course—for it is, alas! an of course—all Blue, Whites being absent. First cock (Fulton), a very noble bird. The young Carriers were a pleasing lot. First-and-cup cock, a Dun, was of an excellent colour and fine thin neck. The prize hens were all Blacks.

**The Pouters.**—These were a little awkward to find, their pens not coming next or near the Carriers. Black and Blue cocks certainly a good class. First (Watkin) nice limb, colour and shape, but not large crop. Second (Hill) the best blue colour of the lot. Third (Bullen) a Black, very fine colour. No. 1207 had not even a highly commended. Strange this. Black and Blue hens.—First-and-cup a magnificent Blue (Baker). Second and third (Pratt and Baker) capital Blacks. Black Pouters have advanced this year. Red and Yellow cocks.—All save the prize birds were poor. First very good Red. Hens of same colours better. First (Watkin) too heavily flagged for a prize bird, and not a good Red in colour. Second (Hill) a fine Yellow. Third long, but very washy in colour. 1235, Red, highly commended (Fulton), fine globe. 1234, Yellow (Pratt), too grey, but nice long hen. 1236 highly commended, Yellow (Fulton), good. Cocks (any other colour) all Whites.—First a very elegant bird (Watkin). White hens, of course Mrs. Ladd first. I name that bird "The White Empress." An honour to Wiltshire she is, and was very civil to "WILTSHIRE RECTOR," putting on her best manners to me. There was one bird in this class not White, a fine, long, elegant, showy Dun, that took third prize (T. Bullen). Why were no good-feathered and barred Mealies shown? Now dodging back again, please alter this, Mr. Cambridge, next year.

I come to the *Almonds* (cock or hen).—First (Baker) a good old bird. Second (same owner) a nicely spangled bird. Third very good (Beck). A nice and numerous lot of Any variety of Short-faces followed. First a rich Red (Baker) with beautiful eyes. Second a Kite with capital head. Third (Beck) a Red Agate. Among the highly commendeds was a well-shown beautifully coloured Red, though a trifle coarse, No. 1262 (Crane).

**Barbs** (cocks).—Black, Red, Yellow won as to colour and order. The cup hen—what a hen! so very superior. Second and third might have changed places with advantage, I think. Young Barbs.—First and second Black. First fine in head and colour. Third a pleasing Yellow.

Foreign *Owls* more numerous than at the Palace. First and third Whites. Second a good Blue. Two highly commendeds, 1296 and 1297, worthy of prizes.

**The Trumpeters.**—First-and-cup, of course, Mr. Lederer. Second same owner. Third a good Black. Highly commended, 1306 (Hill), a fine Mottle. What strange poke-about, odd, heavy chaps are these Russians! Pity there are no Turkish Pigeons to put next them.

**Jacobins** (Red or Yellow, cocks or hens).—First Red (Fulton), colour, mane, down-face excellent. Second Red (Baker). Third Yellow (Fulton), excellent. I noticed that as a rule the colours in this class were very good, so also the chains, but the hoods would go back or have a break in the centre of them. This fault even more apparent in the Any other colours. Of these, First a White (Fulton), and very good. Second a neat Black (Baker), but too long-faced. Third a White, a little large, but good chain and mane.

**Fantails.**—Only one Blue in the whole lot. First-and-cup (Serjeantson) a fine tail, good shape, but no motion. A Scotchman looking at it would want "a drap of whusky," or at least a pinch of snuff, to recover himself. Second and third (Maynard) two good Whites.

**Turbits** (Red or Yellow).—I really was surprised to see No. 1351 carry off first and cup. Bad washed-out colour (Yellow), poor peak-crest, and stained beak, the face all; while the two Palace first and second (Crafer) here only second and third. Both these rich Yellows and fine peak-crests. I was surprised, and am still. Any other colour.—First a super-excellent Black (Cresswell), worthy of any cup. Second (Wood) a very superior Silver. Third (Salter) a nice Blue. This class very good.

**English Owls.**—First-and-cup a model bird, a Silver (Salter). **Nuns.**—Very very few, only three pens. First Mr. Siedle with a very good bird. Second Mr. J. T. Holmes. I hope he will take up the Nuns and make The Cedars at Bath famous for them. There is a grand opening now for a Nun fancier, and the Judges must encourage Red and Yellow Nuns as well as the Blacks.

**Maggies** a good class. Black first, Black second, Yellow third. Glad to see the Yellows encouraged by a prize. If Judges had been equally considerate to Yellow Nuns they would not have vanished.

**Dragoons** (Blue or Silver) an excellent lot. Whites choice; first (Woods) a noble bird. Any other colour, first (Woods) a Chequer, not good-shaped wattle—not the pig shape; too much lower beak wattle; neck thick. Second a better head, a nice Yellow; third (Sugden) a good Red. Young Blues and Silvers not remarkable. Young, any other colour, first (Fulton) an excellent young Yellow; second (Woods) a good Chequer.

**Antwerps** of different varieties; among the Long-faced some very likely working birds.

Any other variety not mentioned, too small a class.

**Tumblers** (Long-muffed).—First fine colour and marking—a Black Mottle; owner Mapplebeck. Many of the muffs very long. Long-faced Beards and Balds.—Good old sorts; the former once famous in Bristol. Any other variety of Flying Tumbler.—This a capital class, and showed that once let prizes be offered for the true old smooth-legged Tumbler—the Tumbler, many birds will be forthcoming. I like flying men to be encouraged. First a Red Mottle (Mapplebeck), capital bird; second Red (Fulton), a fine whole-coloured Red, as good a bird as I could wish to see, a model of a clean-legged flying Tumbler; third (Hyde) a Yellow Mottle, good colour, neat shape; 1577 (highly commended) Yellow, very nice; 1578 next to it, a whole Yellow, as good or even better. May this deserving class of natural-shaped interesting birds appear at every show.

A flying class for Homing birds, and long classes of selling birds, completed the Show, which, save in visitors, was as a Show all that can be desired.—WILTSHIRE RECTOR.

#### POULTRY.

**DORKINGS.**—Coloured.—Cockerel.—1, O. E. Cresswell. 2, R. R. W. Beachy. 3, R. Burnside. 4, Countess of Dartmouth. *vhc*, Mrs. Hind, Rev. H. F. Hamilton. *Pullet*.—1, S. Newick. 2, A. M. Gibbs. 3, Rev. H. F. Hamilton, 4, Miss J. Milward. *vhc*, O. E. Cresswell, R. W. Beachy, Rev. G. Watson. *Cock*.—1, J. Coppel. 2, L. Pilkington. 3, Rev. G. Watson. *Hen*.—1 and Cup, F. Parlett. 2, Mrs. Hind. 3, Mrs. Radclyffe. *vhc*, R. W. Beachy. *Silver-Grey*.—Cockerel or *Cock*.—1 and Cup, O. E. Cresswell. 2, F. Chesson. 3, W. W. Rutledge. *Pullet* or *Hen*.—1, O. E. Cresswell. 2, W. W. Rutledge. 3, H. T. Sotham. *White*.—Cockerel or *Cock*.—1, Mrs. M. A. Hayne. 2, Countess of Dartmouth. 3, R. A. Boissier. *Pullet* or *Hen*.—1, O. E. Cresswell. 2, Dr. E. Snell. 3, Mrs. M. A. Hayne.

**COCHINS.**—Cinnamon or Buff.—Cockerel.—1, Cup, and 2, Mrs. A. Tindal. 3, Henry Lingwood. *vhc*, Mrs. E. Allsopp. *Pullet*.—1, R. P. Percival. 2, A. J. E. Swindell. 3, Mrs. A. Tindal. *vhc*, W. A. Burnell. *Cock*.—1, R. P. Percival. 2, W. A. Burnell. 3, W. A. Bindle. *Hen*.—1, W. A. Burnell. 2, W. A. Bindle. 3, H. Tomlinson. *Brown or Partridge*.—Cockerel.—1, E. Tudman. 2, R. P. Percival. 3, Hon. Mrs. Sugden. *Pullet*.—1 and Cup, R. J. Wood. 2, J. H. Jones. 3 and *vhc*, Mrs. A. Tindal. *Cock*.—1, H. Tomlinson. 2, E. Tudman. 3, R. P. Percival. *vhc*, T. Aspdien. *Hen*.—1, Mrs. A. Tindal. 2, R. J. Wood. 3, W. Nickolls. *vhc*, J. H. Jones. *White*.—Cockerel.—1, P. H. Chase. 2, Mrs. A. Tindal. 3, W. H. Coplestone. *Pullet*.—1, J. Turner. 2, Mrs. A. Tindal. 3, J. H. Nicholls. *vhc*, Mrs. White. *Cock*.—1, Mrs. A. Tindal. 2, R. A. Boissier. 3, H. Tomlinson. *vhc*, Mrs. J. T. Holmes. *Hen*.—1, Mrs. A. Tindal. 2, C. Bloodworth. 3, H. Tomlinson. *vhc*, W. A. Burnell. *Black*.—Cockerel.—1, E. Kendrick, jun. 2 and *vhc*, A. Darby. 3, H. J. Storer. *Pullet*.—1, T. Beardsworth. 2, N. Cook. 3, T. Aspdien. *vhc*, E. Kendrick, jun. *Cock*.—1 and 2, A. Darby. 3, E. Kendrick, jun. *Hen*.—1 and 2, N. Cook. 3, J. Day. *vhc*, E. Pritchard.

**BRAMBLINGS.**—Dark.—Cockerel.—1 and 3, Horace Lingwood. 2, R. P. Percival. 4, Rev. H. F. Hamilton. *Pullet*.—1 and Cup, R. P. Percival. 3, G. S. Pearson. 4, Horace Lingwood. *Cock*.—1, E. Kendrick, jun. 2, J. Lyon. 3, Horace Lingwood. *vhc*, Mrs. Radclyffe. *Hen*.—1, Newnham & Manby. 2, Rev. J. D. Peake. 3, T. F. Ansell. *vhc*, T. Beardsworth. *Light*.—Cockerel.—1, P. Haines. 2, R. P. Percival. 3, Horace Lingwood. 4, Mrs. Wollocombe. *Pullet*.—1, Mrs. J. T. Holmes. 2, W. H. Haseler. 3, T. A. Dean. 4, M. Leno. *vhc*, Mrs. Crook. *Cock*.—1 and Cup, R. E. Horstall. 2, Horace Lingwood. 3, Mrs. Crook. *vhc*, G. B. Breeze. *Hen*.—1, F. Holbrook. 2, Dr. G. A. Angier. *vhc*, J. Bloodworth. **SPANISH.**—Cockerel.—1 and Cup, F. Le Sneur. 2, R. A. Boissier. 3, H. Hyde. 4, Miss E. Browne. 5, E. Jones. 6, J. Walker. *vhc*, Mrs. E. Allsopp. *Pullet*.—1, J. Walker. 2, S. H. Hyde. 3, Mrs. E. Allsopp. 4, E. Jones. *vhc*, P. F. Le Sneur. 5, W. Hawkes. *Cock*.—1, E. Jones. 2, J. Walker. 3, W. R. Bull. *Hen*.—1 and Cup, J. Hunt. 2, E. Jones. 3, Miss E. Browne.

**HAMBERGS.**—Gold-spangled.—Cockerel or *Cock*.—1, T. Dean. 2, W. A. Hyde. 3, G. J. Duckworth. *Pullet* or *Hen*.—1 and Cup, T. Dean. 2, G. J. Duckworth. 3, W. A. Hyde. *Silver-spangled*.—Cockerel or *Cock*.—1, Miss E. Browne. 2, Duke of Sutherland. 3, Duke of Sutherland. *Pullet* or *Hen*.—1, Ashton & Booth. 2, Miss E. Browne. 3, Duke of Sutherland. *Gold-pencilled*.—Cockerel or *Cock*.—1 and Cup, Duke of Sutherland. 2, J. Rawnsley. 3, W. R. Tickner. *Pullet* or *Hen*.—1, W. K. Tickner. 2, Duke of Sutherland. 3, J. Rawnsley. *Silver-pencilled*.—Cockerel or *Cock*.—1, J. Rawnsley. 2, Duke of Sutherland. 3, J. Preston. *Pullet* or *Hen*.—1, J. Rawnsley. 2, Duke of Sutherland. 3, Dr. E. Snell. *Black*.—Cockerel or *Cock*.—1, S. Walton. 2, J. Pickup, jun. 3, L. Garnett. *vhc*, Rev. W. Sergeantson, Slott & Booth. *Pullet* or *Hen*.—1, C. Sidgwick. 2, E. Bush. 3, Slott & Booth. **GAMES.**—Black-breasted Reds.—Cockerel or *Cock*.—1 and Cup, S. Matthew. 2, T. Mason. 3, W. H. Staggs. *Pullet* or *Hen*.—1 and Cup, S. Matthew. 2, W. J. Pope. 3, Hon. and Rev. F. Dutton. *Brown-breasted Reds*.—Cockerel or *Cock*.—1, T. Mason. 2, G. F. Ward. 3, R. Garnett. *Pullet* or *Hen*.—1, T. Mason. 2, R. Garnett. 3, H. Browne. Any other variety.—Cockerel or *Cock*.—1, S.

POULTRY.—SPANISH.—*Cock*.—1, J. Norval. 2, J. Mackie. 3, J. Souter. *Hen*.—1, J. Dempster. 2, J. Gorrie. 3, J. Norval. COCHIN.—*Cock*.—1, Mrs. J. Davidson. 2 and 3, Mrs. W. Steven. *Hen*.—1, Mrs. J. Davidson. 2 and 3, Mrs. W. Steven. BRAHMA.—*Cock*.—1 and 3, A. Burnett. 2, R. Sheret. *Hen*.—1, J. Sandeman. 2, J. A. Dempster. 3, W. G. Duncan. GAME.—*Cock*.—1, A. Dun-

cans. 2 D. Smith. 5 J. Mollison. *Hen*.—1 and 3 J. Barrie. 2 J. Miller  
POLAND.—*Cock*.—1 and *vhe*, J. Taylor. 2, J. A. Laird. 3 J. Henderson. *Hens*.—  
*Silver-spangled*.—*Cock*.—1 W. Abel. 2 J. Grant. 3 T. Gilroy. *Hen*.—1 G. Beattie.  
2 W. Stratton. 3 T. Gilroy. *Gold-spangled*.—*Cock*.—1 J. Jackson. 2 J. Greason.  
3 J. N. Taylor. *Hen*.—1 J. Jackson. 2 J. N. Taylor. 3 J. Greason.  
*Gold or Silver-pencilled*.—*Cock*.—1 J. Cochrane. 2 P. Campbell. 3 H. D.  
Black. *Hen*.—1 J. Lochhead. 2 W. Reddhugh. 3 J. Cochrane. *Hens*.—  
*Cock*.—1 J. W. Cameron. 2 J. Forsyth. 3 J. Cochrane. *Hens*.—  
Robertson. 3 M. L. Lawrie. 4 J. W. Cameron. ANY OTHER DISTINCT BREED.  
1 E. Lawsonie (Dorking). 2 A. Walker (Minorca). 3 R. Wolsten-  
holme (Black Hamburg). *Hen*.—1 J. Sandeman (Crève-Cœur). 2 T. Gilroy  
(Hamburg). 3 J. Grant (Dorking). BANTAMS.—*Gams*.—*Cock*.—1 J. Dargie  
jun. 2 and 8 J. D. Donald. *vhe*. A. Blair, J. Butchary. *Hen*.—1 R. M'Nab. 2 W.  
Home. 3 J. Butchary. *Gold, Silver, or Creamy Sebright*.—*Cock*.—1 J. A.  
Dempster. 2 W. Phillips. 3 W. Richardson. *HEAVY*.—1 Dallas. 2 J. A.  
Dempster. 3 W. Phillips. *vhe*. W. Richardson. Pratt, Miss R. C. Frew.  
ANY OTHER SORT.—1 W. Ashby. 2 R. H. Ashton. 3 J. D. Donald. *vhe*.  
Kennedy. 3 J. D. Donald. *Hen*.—1 Duncan & Kennedy. 2 J. D.  
Donald. 3 R. H. Ashton. *vhe*. Mrs. Frew. SELLING CLASS.—*Cock*.—Price not  
to exceed 20s.—1 A. Burnett (Brahma). 2 J. D. Donald (Bantam). 3 Mrs. W.  
Steven (Cochin). *Hens*.—1 J. Taylor (Poland). 2 J. D. Donald (Bantam). 3  
A. Burnett (Cochins). DUCKS.—1 W. Morrison. 2 K. Robertson. 3 G. H.  
Nicoll. GESEES.—1 J. Matthew. 2 J. Crook. 3 Mrs. K. Erskine. TURKEYS.—1  
Miss J. Milne. 2 J. Potters. *Cock*.—1 W. H. Roberts. 2 J. T. Saunders. 3 W.  
Morrison. *vhe*. J. Day. *Hen*.—1 A. Glass. 2 J. Day. 3 J. T. Saunders.  
Young *Cock or Hen*.—1 J. Day. 2 F. M'Rae. 3 G. Alexander. *vhe*. J.  
Lamont, jun. CARRIERS.—*Cock or Hen*.—1 J. Lamont. 2 J. Lamont, jun. 3  
E. Mawson. DRAGONS.—*Cock or Hen*.—1 W. Smith. 2 T. L. Johnson. 3 R.  
Woods. *vhe*. J. Guthrie. W. Smith. R. Woods. BARKS.—*Cock or Hen*.—  
Webster. 2 J. Smart. 3 A. Bennett. *Long-faced*.—*Cock or*  
*Hen*.—1 F. M. Kidson. 2 J. Smart. 3 J. Glenday. *Long-faced*.—*Cock or*  
*Hen*.—1 F. M. Kidson. 2 J. Smart. 3 J. Carrigill. FANTAILS.—*Cock or*  
*Hen*.—1 W. H. Roberts. 2 W. R. Davidson. 3 Mrs. A. G. Duncan. JACKBINS  
—*Cock or Hen*.—1 W. & R. Davidson. 2 W. H. Roberts. 3 G. Halkett.  
TRUMPETERS.—*Cock or Hen*.—1 J. M'Donald. 2 Master A. Frew. 3 R. Thir-  
wall. TURBITS.—*Cock or Hen*.—1 and 2 R. Woods. 3 J. Carrigill. *vhe*. D. D.  
Irana. OWLS.—English.—*Cock or Hen*.—1 and 2 J. W. Wood. 3 J. W. Wood.  
MacIntyre. OWLS.—Scottish.—*Cock or Hen*.—1 Duthie. 2 J. Cowie. MAGPIES.  
ANY OTHER DISTINCT BREED.—*Cock or Hen*.—1 A. Mathieson. 2 J. Carrigill. ANY OTHER  
DISTINCT BREED.—*Cock or Hen*.—1 E. Mawson (Antwerp). 2 and *vhe*. J.  
Cove (Ice and Shield). 3 J. Cairns (swallow). SELLING CLASS.—Price not  
to exceed £2.—1 T. Brand (Pouters). 2 J. Carrigill. 3 J. Lamont, jun. (Owls).

CAGE BIRDS.—SCOTCH FANCY CANARIES.—Yellow.—*Cock*.—1 W. Ferguson.  
2 W. Wood. 3 R. Hampton. *vhe*. J. Ferguson. *Hen*.—2 W. Wood. 3 J. Ferguson.  
*Cock*.—1 J. Livingston. 3 J. Ferguson. *Hen*.—1 J. Livingston. 3 J. Ferguson.

SCOTCH FANCY PIEBALDS.—Yellow.—  
*Cock*.—1 C. Ormond. 2 J. Shanks. 3 W. Wood. *Hen*.—1 J. Shanks. 2 C.  
Ormond. 3 W. Ferguson. *vhe*. G. Crow. Buff.—*Cock*.—2 R. Hampton. 3  
Black. *Hen*.—1 J. Shanks. 2 C. Ormond. 3 W. Ferguson. FOUL-FEATHERED  
OF FOREGOING CLASSES.—*Cock or Hen*.—1 J. Shanks. 2 J. Black. 3 D.  
Langlands. NORWICH CANARIES.—Yellow or Buff.—*Cock or Hen*.—1 D. Lang-  
lands. 2 J. Scorgie. 3 A. R. Langlands. NORWICH CANARIES.—  
Yellow or Buff.—*Cock or Hen*.—1 D. Langlands. 2 J. Scorgie. 3 A. R. Langlands.  
YELLOW.—*Cock or Hen*.—1 A. Mathieson. 2 D. Langlands. 3 A. R. Langlands.  
Buff.—*Cock or Hen*.—1 A. Mathieson. 2 J. Scorgie. Piebald.—*Cock or*  
*Hen*.—1 and 8 D. Langlands. 2 A. R. Langlands. Green.—*Cock or Hen*.—1  
W. Robertson. 2 and 8 W. Scott. SELLING CLASS.—Price not to exceed 15s.—  
*Cock or Hen*.—1 G. Crow. 2 A. R. Langlands. 3 D. Watson. Price not to  
exceed 7s. 6d.—*Cock or Hen*.—1 and 8 D. Watson. 2 D. Beattie. GOLDENCRE.  
*Cock*.—1 W. Scott. 2 J. Dunn. 3 J. Andrew. GOULDEN CRESCENT.—1 J.  
J. Reid. 2 A. G. Evans. 3 J. Andrew. GRAY.—1 W. Clark. 2 A.  
Wallace. Jun. 3 A. Burnett. SKISKIN.—*Cock*.—1 G. Crumond. 2 J. Andrew. 3  
J. Scorgie. *vhe*. J. Carey. SKISKIN MOULE.—*Cock*.—1 A. Mathieson. 2 C.  
Gouk. 3 J. Taylor. LINNET MOULE.—*Cock*.—3 C. Gouk. STARLING.—*Cock*.—1  
N. Bowman. 2 J. Milne. PARROT.—Grey.—1 W. Cruickshank. ANY other  
variety.—1 A. Glass. 2 C. Evans. 3 J. Alexander. COCKATOO.—1 G. W.  
Middleton. 2 J. Taylor. PARAKEET.—1 W. Cruickshank. COLLECTION OF  
BIRDS.—1 W. R. Davidson. Pair.—1 Miss J. M. Frew 2 and 3 Mrs. Roberts.  
ANY OTHER SORT.—Pair.—1, Master R. E. Frew. 2 A. Anderson. 3 R.  
Burnett.

JUDGES.—Mr. E. Hutton, Pudsey, Leeds    Mr. Pettigrew, Carlisle.

BELFAST SHOW OF POULTRY, &c.

THIS Show was held in the Ulster Hall, Belfast, on the 1st and 2nd inst., when the following prizes were awarded:—

**POULTRY.**—*Dorings.*—*Coloured, except Silver Grey.*—*Cock.*—*Grand Cup.*  
W. H. King, 2, E. T. Herdman, 3, M. F. Smyth. *Hen.*—1 and Cup, W. G. Mulligan, 2, M. F. Smyth, 3, E. T. Herdman. *Silver Grey or White.*—*Cock.*—1, F. Watson, juv., 2, W. H. King, 3, W. G. Mulligan. *Hen.*—1, W. H. King, 2, W. G. Mulligan. *COCHINS.*—*Buff or Cinnamon.*—*Cock.*—1, J. Booth, 2 and 3, F. Robertson. *Hen.*—1, Cup, and *vhc.* M. Mahony, 2, F. Robertson, 3, Tomlinson. *Any other variety.*—*Cock.*—1 and Cup, M. Mahony, 2, T. Stretch, 3. *H. Tomlinson. Hen.*—1, M. Mahony, 2, E. Scammell, 3, J. Booth. *BRAMAS.*—*Dark.*—*Cock.*—1, J. Crawford, 2, W. G. Mulligan, 3, H. Beldon. *Hen.*—1, H. Beldon, 2, J. Crawford, 3, P. E. 3, W. G. Mulligan. *Light.*—*Cock.*—1, T. O. Atkinson, 2, T. A. Bond, 3, E. T. Herdman. *Hen.*—1 and Cup, T. O. Atkinson, 2, E. E. Horsfall, 3, T. A. Bond. *SPANISH.*—*Cock.*—1, W. H. Low, 2, J. Thresh, 3, W. G. Mulligan. *vhc.* W. G. Mulligan, A. C. Jewell. *Hen.*—1, Cup, and 2, W. G. Mulligan, 3, J. Thresh, *vhc.* W. G. Mulligan, W. H. Low. *GAME.*—*Black Red or Brown Red.*—*Cock.*—1 and Cup, W. Watson, 2, F. Robertson, 3, J. Booth. *Hen.*—1, J. Booth, 2, J. Ferguson, 3, W. Watson. *Any other variety.*—*Cock.*—1, J. Booth, 2, J. Ferguson, 3, W. Watson. *Hen.*—1, H. Beldon, 2, J. Ferguson, 3, Withheld. *HOUDANS.*—A. Withers. *Any other variety.*—*Cock.*—1, Lindsay, 3, H. M. Charley. *GREY-CEUR and LA FLEUR.*—1, Cup, 2, and 3, F. Watson, juv. *HAMBURG.*—*Black-spangled.*—1, H. Beldon, 2, J. Crawford, 3, Withheld. *Silver-spangled.*—1, H. Beldon, 2, P. M'Lean, 3, H. Boyd. *Gold-pencilled.*—1 and Cup, P. M'Lean, 2, J. Firth, 3, H. Beldon. *Silver-pencilled.*—1, H. Beldon, 2, J. M'Leelland, 3, Withheld. *POLISH.*—1, H. Beldon, 2, Withheld, 3, E. Malcolmson. *MALAYS.*—1, H. J. McBride, 2, J. M'William, 3, J. Firth. *Any other variety.*—*Cock.*—1, Cup, 2, W. Shenton, 3, Miss L. Stephens. *Black.*—1, H. Beldon, 2, Miss Donnelly, 3, R. H. Thorne. *Any other variety.*—1 and 3, Miss Donnelly, 2, W. H. Marland. *ANY OTHER DISTINCT VARIETY.*—1, P. M'Lean, 2, T. A. Bond, 3, H. Beldon. *SELLING CLASSES.*—*Cock.*—1, F. Robertson, 2, J. N. R. Pim, 3, J. Firth. *Hens or Pullets.*—1, F. Robertson, 2, E. T. Herdman, 3, P. M'Lean. *DUCKS.*—*Rouen.*—1, W. G. Mulligan, 2, F. Robertson, 3, J. Girdwood. *W. G. Mulligan, A. T. Herdman. AYLESBURY.*—1, F. Robertson, 2, J. Booth, 3, W. B. Maxwell. *Any other variety.*—*Orlando.*—1, F. Robertson, 2, J. Booth, 3, Rev. S. A. 3. *General.*—*TURKEYS.*—1, F. Watson, juv. and 3, H. Thorne.

2, R. Falton. 3, N. Hill. *Hen*.—1, J. M'Culloch. 2, N. Hill. 3, R. Falton. *Red or Yellow Pied*.—*Cock*.—1 and 3, J. M'Culloch. 2, R. Falton. *Hen*.—1 and Cup, J. M'Culloch. 2, J. H. Hutchinson. 3, R. Falton. *White*.—*Cock*.—1 and 3, J. H. Hutchinson. 2, W. A. P. Montgomery. *Hen*.—1 and 2, F. W. Znrhorst. 3,

M'Culloch. **CARRIERS**.—*Black*.—*Cock*.—1, Cap, and 2, J. Montgomery. 3, R. Fulton. *Hen*.—1 and 2, J. Montgomery. 3, R. Fulton. *Dun*.—*Cock*.—1, J. Montgomery. 2, R. Fulton. *Hen*.—1 and Cup, R. Fulton. 2 and 3, J. Montgomery. **TUMBLERS**.—*Short-faced Almond*.—*Cock*.—1, M. Stuart. 2, R. Fulton. *Hen*.—1, Cup, and 2, M. Stuart. *short-faced any other colour*.—*Cock*.—1, Cup, and 2, M. Stuart. 3, W. A. P. Montgomery. *Hen*.—1, W. A. P. Montgomery. 2 and 3, M. Stuart. **BABBS**.—*Cock*.—1, 2, and 3, W. A. P. Montgomery. *Hen*.—1, Cup, 2, and 3, W. A. P. Montgomery. **JACOBS**.—*Red*.—*Cock*.—1 and Cup, W. A. P. Montgomery. 2 and *vhc*, E. E. M. Roysds. 3, J. F. Liversidge. *Hen*.—1 and Cup, W. A. P. Montgomery. 2 and *vhc*, E. E. M. Roysds. 3, J. F. Liversidge. **WATERS**.—*Red*.—*Cock*.—1 and Cup, W. A. P. Montgomery. 2 and *vhc*, E. E. M. Roysds. 3, J. F. Liversidge. *Hen*.—1 and Cup, W. A. P. Montgomery. 2 and *vhc*, E. E. M. Roysds. 3, J. F. Liversidge. **TRUMPETERS**.—*Black*.—*Cock*.—*Cock* or *Hen*.—1, 2, and 3, J. H. Hutchinson. *Any other colour*.—*Cock* or *Hen*.—1, Cup, 2, and 3, J. H. Hutchinson. **FANTAILS**.—*Cock*.—1 and 2, J. Waters. 3, J. F. Liversidge. *Hen*.—2, 3, J. F. Liversidge. 3, M. F. Smith. **OWLS**.—*English*.—*Cock* or *Hen*.—1 and Cup, J. Thresh. 2, J. Booth. 3, J. R. Fulton. *Foreign*.—*C* or *Hen*.—1, W. A. P. Montgomery. 2 and 3, E. E. M. Roysds. **TURBITS**.—*Red or Yellow*.—*Cock* or *Hen*.—1, R. Fulton. 2, J. Lamont, jun. 3, W. G. Henry. *Any other colour*.—1, R. Fulton. 2, W. S. M'Gibbon. 3, W. G. Henry. **NUSS**.—*Cock* or *Hen*.—1, G. W. Panter. 2, A. M'Kenzie. 3, J. Lamont, jun. **DRAGONS**.—*Blue or Silver*.—*Cock* or *Hen*.—1 and 3, R. Fulton. 2, F. W. Zurborst. *Any other colour*.—*Cock* or *Hen*.—1 and 3, A. M'Kenzie. 2, R. Fulton. **FLYING TUMBLERS**.—*Beards*.—*Cock* or *Hen*.—1, 3, J. Brown. 2, T. Read. 3, E. Lee. *Red or Yellow Bards*.—1, 2, and 3, T. Read. *Any other colour Bards*.—*Cock* or *Hen*.—1, J. Cinnamon. 2 and 3, T. Read. *Any other colour or marking*.—*Cock* or *Hen*.—1 and Cup, W. A. P. Montgomery. 2 and 3, A. Crawford. **CARRIERS**.—*Red*.—*Cock*.—1, Cup, and 2, J. Montgomery. 3, W. A. P. Montgomery. 2 and 3, J. Waters. **R. FULTON. SELLING CLASS**.—*Pair*.—*Price not to exceed* 53.—1, J. Pypier. 2, J. Waters. 3, J. Frame. *Cock* or *Hen*.—*Price not to exceed* 23.—1, Mrs. Ladd (Carriers). 2, T. Read (Turbits). 3, G. W. Panter (Jacobin).

**PIGEONS** (Competition open to Members only. Young Birds).—**POUTERS**.—*Any standard colour*.—**Cock**.—1, J. McCulloch. 2, J. Hill. 3 and *vho*, W. A. P. Montgomery. **Hen**.—1, 2 and 3, J. McCulloch. *vho*, W. A. P. Montgomery. **CARRIERS**.—*Black or Dun*.—**Cock or Hen**.—1, 2 and 3, J. Montgomery. **BARBS**.—*Cock or Hen*.—1, 2 and 3, W. A. P. Montgomery.

*Cock of Hen*.—1, 2, and 3, W. A. F. Montgomery.  
*EAGLE BIRDS*.—*Chellangs*.—Yellow.—*Cock*, 1, J. S. Watson. 2 and 3, J. Elliott.  
*Buff*.—*Cock*, 1, J. S. Watson. 2 and 3, G. M. Smith.  
*Buff-Cock*.—*Cock*, 1, J. S. Watson. 2 and 3, W. Gault.  
*Hen*.—1, J. S. Watson. 2, W. Gault. 3 and *vhe*, J. Elliott. *Scorch*.  
*Yellow*.—*Cock*.—1, 2, T. Scott. 2, T. Moffett. *vhe*, W. Stitt, W. Callender.  
*Hen*.—1, J. S. Watson. 2 and 3, T. Scott. *vhe*, W. Stitt, W. Callender. *Buff*.  
*Cock*.—1 and 2, T. Scott. 3, W. Callender. *Hen*.—1, Cup, and *vhe*, T. Scott.  
*W. Callender*. 3, W. Stitt. *Flecked or Pied*.—*Yellow*.—*Cock*.—1, T. Scott.  
*W. Stitt*. 2, E. Edwards. 3, W. Callender. *Hen*.—1, Cup, and *vhe*, T. Scott.  
*vhe*, J. S. Watson. *Buff*.—*Cock*.—1 and 2, T. Scott. 3, W. Stitt. *vhe*, J. M'Nab.  
*Hen*.—1, Cup, and 3, T. Scott. 2, W. H. Low. *vhe*, W. Gault. *Foul-feathered*.  
*Cock or Hen*.—1, W. J. Thompson. 2 and 3, T. Scott. *vhe*, J. A. Pryde.  
**ANY OTHER VARIETY OF CANARY**.—1, 2, and 3, M. F. Smyth. *vhe*, W. Stitt, J. G. Quinn.  
**MULES**.—1, J. S. Watson. 2 and 3, W. G. Mulligan. **BRITISH SONG**  
*Sparrows*.—1, M. F. Smyth. 2, C. Gosling. 3, J. Harter. *Crass*.—1, T. Scott. 2,  
J. Hughes. 3, W. Gault. *Crass*.—1, M. F. Smyth. *Parrrots*.—1, T. Smyth. 2,  
J. S. Watson. 3, J. Warnock. *vhe*, S. W. M'Bride. *Ppyer*.

JUDGES.—*Poultry*: Mr. M. Leno, The Pheasantry, Dunstable; Mr. James Dixon, North Park, Clayton, Bradford. *Pigeons*: Mr. P. H. Jones, Fulham. *Cage Birds*: Mr. S. Williamson, Welch Row, Nantwich; H. McDougall, Murdock Terrace, Edinburgh.

THE BIRMINGHAM COLUMBIAN SOCIETY'S PRIVATE SHOW, advertised in another column to-day, we hope will be well attended. There are no prizes offered, and all visitors will be welcomed to see the birds which will be exhibited by the members.

# PROGRESS OF APIARIAN KNOWLEDGE.—No. 1.

It is always profitable to mark the progress of knowledge in any department of life, and I understand the term "life" in its widest sense. There is "high life" and "low life" among mere animals as well as among mankind—nay, for that matter, in the vegetable world also. And we apirians maintain that our favourites are pretty highly ranked among the intellectual *élite* of the insect races, and worthy of all honour for the signal benefits they confer on the "lords of the creation."

It has occurred to me, therefore, as not unsuitable to the pages of this Journal to take stock of the advances made in our knowledge of bees during the last half century. The researches of Huber, so patiently pursued and with such marvellous success in spite of the difficulties which his blindness occasioned, put him far ahead of all that had ever been written about bees up to his time, and afford a starting point from which we may date our inquiries as to the present state of our apiarian knowledge in comparison of those who used to think Huber the *ne plus ultra* of apiarists. I purpose, therefore, to trace out as far as I can the progress we have made in our knowledge of bees since his day, whether in connection of conclusions to which he had arrived which have been subsequently disproved, or in addition to the facts which he had most undoubtedly established as true. I will begin with that which was his speciality—namely, the natural history of bees. When I come to speak of progress in management of bees I must quit Huber, because his object was not commercial. His investigations were almost solely confined to the internal economy of the hive, and to bees as a race of insects peculiarly interesting to the naturalist.

He begins, then, with the history of the queen bee—development from the egg to full maturity, including her qualifications for becoming a fruitful mother and the conditions under which she became such. He traces with the most patient assiduity, never taking anything for granted till he has proved it to be an indisputable fact by oft-repeated trials and experiments, varied and modified in every conceivable way. To most of the results which he gave to the world at the close of the last century everybody capable of being convinced by positive proof and logical



argument has yielded assent long ago. Of course I speak of the rule which may be said to regulate the proceedings of bees, for since his day there have not been wanting instances of apparently exceptional violations of the established customs and habits of queens. For instance, no doubt it is almost invariable that young queens mate with their drone lovers in the open air. With all his attempts to find an instance to the contrary Huber never had a single demonstration of exceptional conduct in this respect on the part of the many young queens which he subjected to trial. It is most interesting to read the story of his experiments—with what patience he pursued them, taking nothing for granted; for, as he truly observes, “in observations which are both new and delicate, and where it is so easy to be deceived, I consider that a candid avowal of my errors is doing the reader service. This is an additional proof among others of the absolute necessity that an observer should repeat all his experiments a thousand times to obtain the certainty of seeing facts as they really exist.” I cannot help here drawing the attention of whoever it may concern to this modest statement of this really great man—great in his peculiar line of study.

But to proceed. Shall I assert that the first instance of superior knowledge in us moderns allows us to supply exceptions to Huber's rule, to which he knew no exception?—namely, that queens can be fecundated in the interior of the hive, and that it is not necessary for them to leave it for the purpose. We have heard it stated of late years, I think even in this Journal, that it is not necessary for young queens to meet the drones in the open air; but I cannot lay my hands on the evidence alleged, and I must say that I have never been convinced that the data were sound on which this evidence was presumed to be founded. If any readers of this Journal can prove the fact from ocular demonstration we shall all be interested in hearing of it.

Have we anything to say to Huber's discoveries relative to the curious fact which presented itself invariably to him, that if for any reason the impregnation of the queen bee has been retarded for twenty-one days she never can lay any but drone eggs? Again and again by a plethora of experiments this was proved to be the rule, no exception presenting itself to his notice. “My evidence,” he says, “is demonstrative, for I can always prevent queens from laying the eggs of workers by retarding their fecundation until the twenty-second or twenty-third day of their existence.” Our late excellent friend Mr. Woodbury devoted a great deal of attention to this matter, and detailed instances which came under his own observation, which satisfied him that Huber's conclusion on this point, however his experience may establish a rule, cannot be considered as absolute and final. He found that sometimes young queens which had been unable to mate with drones till the thirtieth and even fortieth day after their birth were still able to breed worker bees. Probably this is owing to influences of season and temperature, which develop or retard the queen's physical powers, as we know that in winter time the hatching of eggs is often checked many days, as well as the issuing of the full-grown insects from the cell. We should, I think, be acting imprudently were we to accept Mr. Woodbury's experience as otherwise than exceptional.

The most real and marvellous discovery which has been made about bees since the days of Huber is the fact, which has been proved to demonstration over and over again, that queen bees do not remain barren even if they fail to mate altogether. To Von Siebold, a German naturalist, we are indebted for this surprising discovery, and to Mr. Woodbury for drawing attention to it in England. It is some years since the matter was discussed in the pages of this Journal, and I believe every person disposed at first to doubt its truth ended by a full assent. The fact is that unfecundated queen bees have the inherent power of producing drone bees, but not (in any case known) those of workers. This has been called *parthenogenesis*.—B. & W.

## BEES DURING THE PAST SEASON.

I SEND you an account of twenty-six of my hives—hives that I have not assisted by feeding since the 1st of June.

	lbs.		lbs.
1. Ligurian, swarmed, nadired with bar hive	99	13. Black swarm	45
2. Black, swarmed once	57	14. “ “	44
3. Ligurian, swarm returned	80	15. “ “	50
4. Ligurian, swarmed once	80	16. “ “	55
5. Black swarm	58	18. Accidentally no return: destroyed	
6. Ligurian swarm	52	19. “	
7. Black swarm	42	20. Black swarm	38
8. Ligurian, swarmed	80	21. Hybrid, swarmed twice	80
9. Black swarm	44	22. Black swarm	52
10. “	35	23. “	49
11. “	45	24. “	60
12. Hybrid, swarm returned, nadired, with bar-frame nadir	90	26. “	35

I have introduced during the months of October and November twenty-four Ligurian queens; and as I have sixteen straw skeps, all black bees, besides those I have numbered, I may make a trial next year.

My straw skeps are all small (12-inch), swarmed this year, and weigh from 30 to 40 lbs. each. I sent six to Manchester last month, their average was 33½ lbs.; also one Ligurian, 39 lbs. Four of them were broken on the railway. I shall not sell any now to go that distance, but may do so in the spring, when the risk is not so great.—JAMES HALE, *Kedington, near Haverhill, Suffolk.*

## OUR LETTER BOX.

HOUDANS (B. E.).—There is no book devoted to them.

GLUTEN (G. Fenn).—If wheat flour be kneaded into a paste with a little water it forms a tenacious, elastic, soft, ductile mass. This is to be washed cautiously, by kneading it under a small jet of water till the water no longer carries off anything, but runs off colourless; what remains behind is called gluten.

DEAD HIVE (*Senex Corycius*).—We do not trace in your account of the mishap of your deserted hive any of the known symptoms of “foal brood.” Your bees have succumbed probably to natural decay after the loss of their queen from whatever cause. We know well the sort of mildew condition of the pollen as described. It merely resulted from damp causing its decay. It would be likely to occur in an empty hive during such a warm damp autumn as the last. The hornets were probably queens which found the empty hive a snug place for hybernation.

PERFORATED ZINC (H. J.).—You can obtain the  $\frac{5}{16}$ -inch perforated zinc at any ironmongers. Mr. Phillips says, “The great benefit obtained by using it is the prevention of the queen from ascending into the super, whilst the perforations are large enough to permit the ingress of workers without pollen in their baskets. The sheet of zinc, of course, intervenes between super and stock.”

WHERE IS THE HONEY FOUND?—Will those apiarians who obtain large honey harvests have the kindness to give, for the benefit of less experienced bee-keepers, a short topographical description of the country, and the kind and quantity of the principal honey flowers contained within a circle two miles in diameter, having their apiary for the centre?—P. B. P.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
1876.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	In.		
Nov.	29.556	37.0	86.8	W.	43.7	45.8	35.0	75.0	32.2	0.010	
and	29.699	36.9	86.7	N.	41.6	48.2	31.4	51.8	28.1	0.243	
Dec.	29.424	52.4	51.0	S.	43.0	56.2	36.8	77.0	36.2	0.306	
	29.387	51.9	50.3	S.W.	45.3	55.4	50.3	62.0	45.7	0.336	
We. 29	29.046	53.2	50.4	S.	46.4	56.6	51.4	64.2	46.2	0.373	
Th. 30	28.398	49.3	46.8	S.	47.3	52.3	49.4	54.6	45.3	0.132	
Fri. 1	28.927	51.6	49.1	S.	46.1	52.2	47.2	52.4	41.8	1.672	
Sat. 2											
Sun. 3											
Mon. 4											
Tu. 5											
Means.	29.191	47.5	45.9		44.9	52.5	43.1	62.4	39.4	1.673	

## REMARKS.

- 29th.—Slight frost, but fine morning; splendid forenoon, and fine all day.  
30th.—Very dark and thick in the morning, dull all day, and wet night.  
Dec. 1st.—Very fine morning, dull afternoon, and wet evening; wind high at night.  
2nd.—Fine till near noon, and very warm; rain in the afternoon and in the evening.  
3rd.—Rainy morning, raining at intervals more or less all day, very heavily for a short time about noon, barometer falling rapidly.  
4th.—High wind during the night and till the afternoon of the day, when it lulled a little; starlight at 3 p.m., lunar halo at 10.55 p.m.  
5th.—Boisterous, dark, and rainy nearly all day.

A week remarkable for an extremely low mean barometrical pressure, and for excessive rainfall. The pressure at 11 a.m. on the 4th was only 28.384 in., being with two exceptions the lowest reading for fifty years. Rain has fallen on every day, the amounts being large but not excessive.—G. J. SIMONS.

## COVENT GARDEN MARKET.—DECEMBER 6.

BUSINESS is so very quiet, and the weather so bad, that there is no report to make.

## VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... dozen	0	0 to 0	Leeks..... bunch	0	4 to 0
Asparagus..... $\frac{1}{2}$ 100	0	0	Mushrooms..... pottle	1	6 to 2
French..... bundle	0	0	Mustard & Cress punnet	0	8 to 0
Beans, Kidney..... $\frac{1}{2}$ 100	1	0 to 1	Onions..... bushel	0	6 to 0
Beet, Red..... dozen	1	6 to 8	“ pickling..... quart	0	4 to 0
Broccoli..... bundle	0	9 to 1	Parsley.... doz. bunches	2	0 to 4
Brussels Sprouts... sieve	3	0 to 4	Parsnips..... dozen	0	0 to 0
Cabbage..... dozen	1	0 to 2	Peas..... quart	0	0 to 0
Carrots..... bunch	0	4 to 8	Potatoes..... bushel	2	6 to 4
Capsicums..... $\frac{1}{2}$ 100	1	6 to 2	“ Kidney..... do. 3	0	5 to 0
Cauliflower..... dozen	8	0 to 0	Radishes.... doz. bunches	1	0 to 1
Celery..... bundle	1	6 to 8	Rhubarb..... bundle	0	3 to 0
Coleworts..... doz. bunches	2	0 to 4	Seakale..... bundle	0	9 to 1
Cucumbers..... each	0	6 to 1	Scorzoneria..... bundle	1	0 to 0
Endive..... dozen	1	0 to 2	Seakale..... basket	1	6 to 8
Fennel..... bunch	0	8 to 0	Shallots..... lb. 3	0 to 6	
Garlic..... lb. 6	0 to 0		Spinach..... bushel	1	6 to 2
Herbs..... bunch	4	0 to 0	Tomatoes..... sieve	0	0 to 0
Horseradish..... bundle	4	0 to 0	Turnips..... bunch	0	4 to 0
Lettuce..... dozen	0	2 to 6	Vegetable Marrows..... 0	0 to 0	

## WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 14—20, 1876.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.							
14	Th	Prince Consort died, 1861.	46.9	34.3	40.6	8 2	8 49	7 18	2 14	28	4 51	349
15	F		47.0	38.6	40.8	8 2	8 49	8 25	2 55		4 22	350
16	S	SUNDAY IN ADVENT.	46.5	32.9	39.7	8 3	8 49	9 20	3 49	0	3 53	351
17	Sun		45.9	34.0	39.9	8 4	8 49	10 1	4 53	3	3 23	352
18	M		45.8	33.7	39.7	8 5	8 50	10 30	6 5	4	2 53	353
19	Tu		45.4	32.5	39.5	8 5	8 50	10 51	7 18	5	2 23	354
20	W		44.1	33.6	38.9	8 6	8 50	11 7	8 31	6	1 53	355

From observations taken near London during forty-three years, the average day temperature of the week is 45.9°; and its night temperature 38.5°.

## PRUNING VINES.



HERE are more Vines pruned in December and January than during all the other months of the year put together. Amateurs with one or two vineries have mostly cut all their Grapes by this time, and all Vine wood of any importance should have been ripe some time previous to this. When the wood is thoroughly ripe and the leaves off there is nothing to be gained by delaying pruning, and the sooner this operation is performed and the Vines cleaned the better. To the experienced Vine-pruning is a simple-enough matter, but even amongst professional gardeners it is considered very particular work, and in many places pruning the Vines is about the only work the head gardener will not entrust to his foreman or any subordinate. Admitting that Vine-pruning is of so much importance, amateurs must surely often have much difficulty in performing it properly, and a few words of advice on this subject may be of help to many about this time. I will, therefore, briefly give a few practical hints to render the practice as simple as possible.

In the first place, do not think of pruning until all the leaves have fallen of their own accord. Do not pull them off or attempt to cut away the branches when they are green. In some cases the base of the shoot will be quite hard and brown when the point is green. In Muscats especially this is often the case, and very often such shoots will not ripen up to the point, particularly so far on in the season as this. I have seen a good many Vines pruned in this state, but I cannot remember much evil resulting from it; and if the wood is thoroughly well ripened at the base a small green point here and there need not be looked on as harmful. Young Vines in robust health should be closely pruned; but in every instance it is always safest to leave two eyes on each spur, because one may get rubbed off, and when there is not another to take its place there is a blank left in the rod, as well as a loss of fruit.

Old Vines which do not start into growth freely should always have about four eyes or buds left on each spur, as those furthest out are always sure to start if the back eyes do not, and when they do the front buds can be rubbed off; so that the spurs are kept shorter than they otherwise would be.

Young canes planted in spring must be shortened-back to about 2 feet from the ground. Those planted last year, and which have made strong growth this season, will be capable of bearing a few bunches next year, and with this intention from 5 to 7 feet of main cane must be left to each root.

Vines which have been planted for several years and are in fruiting condition part of the way up but not quite to the top will have one leading cane at the top. This must not be left too long, or the rods will be long and small instead of being thick and substantial, as is generally the case when only from 3 to 4 feet of young wood is left at the point each season.

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Vines in pots do not generally need much pruning, but when they do throw out small shoots these must all be cut off before the Vines are either used for planting or fruiting. In all cases pruning should be done with a very sharp knife, and the shoots must not be broken, split, or twisted, but cut clean through, and in doing this care must be taken not to rub off the buds, which is very easily done.

Many people think it is not worth while using anything to prevent bleeding after the Vines have been pruned, but this is a mistake, as they often lose much strength through bleeding, but sometimes not so much at the time of pruning as when they begin growing, and the cuts should all be dressed with Thomson's styptic.—VITIS.

## DECIDUOUS TREES AND SHRUBS.—No. 5.

STANDARD SHRUBS.—Some shrubs when old are too spreading or straggling in growth to be admissible in geometrical, and especially in small, gardens. Many, especially evergreens, have been found to form compact ornamental heads trained up with straight stems. The utility of these miniature trees in small gardens is at once apparent, and they are very appropriate in formally-arranged gardens. Planted in borders of low-growing shrubs these standard forms occurring at suitable intervals are very effective, and at the back of borders of flowering plants much of the monotonous flatness may be relieved by their introduction.

The number of deciduous shrubs suitable for standards is small. The finest and at the same time one of the hardiest of all variegated shrubs is the variegated Dogwood (*Cornus mascula variegata*), which succeeds admirably in moist soil. Cotoneaster Simmondsii is usually considered evergreen, but with me loses its leaves in winter. It is very handsome, its large orange-yellow berries are bright in early winter onwards, and it is very hardy, doing well in any light soil.

*Cytisus elongatus*, *falcatus*, *nigricans*, and *sessilifolius*, all with yellow flowers in early summer, do well in light soils, and being very beautiful deserve a place in every garden. *Genista purgans*, also with yellow flowers, is very attractive. Brooms make pretty standards, especially the Spanish (*Spartium junceum*), yellow; and Portugal (*Genista multiflora*), white. *Forsythia viridissima* has very handsome yellow flowers, which come before the leaves, and is very hardy; and Lilacs, especially the Persian (*Syringa persica*), are very fine; and few subjects appear to greater advantage than flowering Currants (*Ribes sanguineum* var. *album*, *aureum*, and *atro-sanguineum*).

WEeping TREES.—These are becoming somewhat too common in gardens and ornamental grounds, though there is no denying their appropriateness for cemeteries, and for variety their forms occurring among other trees are pleasing. They never appear to such advantage as when planted upon grass. Ash (*Fraxinus excelsior pendula*) is a fine well-known tree for arbours, the gold-barked Weeping Ash (*F. excelsior pendula aurea*) being very distinct and exceedingly ornamental.

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Acacias in their weeping form are very picturesque trees. *Robinia Pseudo-acacia pendula*, however, requires shelter. The most graceful of weeping trees is *Gleditsia Bugoti pendula* (Weeping Acacia), but it also requires a sheltered situation. Weeping Beech (*Fagus sylvatica pendula*) forms a pendulous pyramid, having a fine effect, and does well in light and chalky soils.

The Rose-flowered Chinese Weeping Cherry (*Cerasus chinensis pendula*), and the weeping form of Bird Cherry (*C. Padus pendula*), may be mentioned along with the Weeping Rose-flowering Thorn (*Crataegus rosea pendula*), and Weeping Laburnum (*Cytisus Laburnum pendula*), as fine-flowering trees of moderate growth; also the Weeping Variegated Thorn (*Crataegus oxyantha pendula variegata*). I have already on page 462 mentioned the weeping forms of Willow and Birch, to which may be added as suitable for moist ground the Weeping Aspen (*Populus tremula pendula*).

Few weeping trees are more conspicuous by their flowers in summer and berries in autumn than a well-formed head of Weeping Mountain Ash (*Pyrus aucuparia pendula*). The Weeping Lime (*Tilia europæa pendula*) is noble in its every aspect, but it does not succeed in an exposed situation, which applies generally to weeping trees, but to this in particular. The Weeping Oak (*Quercus pendunculata pendula*) and the Weeping Walnut (*Juglans regia pendula*), are fine pendulous trees of large growth, both requiring good soil.

In Elms we have some noble pendulous trees, the palm being borne off by the Camperdown Elm (*Ulmus montana pendula* var.), and the fine silver-edged foliage of *Ulmus campestris pendula elegantissima* may be noted as very beautiful; but this with the *Ulmus campestris viminalis variegata* is not very free in growth, appearing to require sheltered situations.

There is a Nut with pendulous shoots—namely, *Corylus avellana pendula*, very pretty, and a Weeping Almond (*Amygdalus communis pendula*). A pendulous Horse Chestnut (*Æsculus or Pavia pendula*) shall close my notes on weeping trees, which I will dismiss with the observation that their rounded heads are desirable for affording variety and breaking and softening lines that would otherwise be abrupt and hard.

Trees named as suitable for standards are equally desirable as dwarfs in ornamental grounds where they have no hindrances to their branches reaching to the ground. I have omitted some trees which I now wish to note—namely, *Acer Negundo variegata*, the most beautiful of all variegated trees, having its Ash-like leaves effectively variegated with white. It is effective in the foreground of dark-foliaged trees, and very useful in flower gardens. Unfortunately it does not succeed in a cold exposed situation, and does best in light soils, though I have seen it very fine in moist soils and sheltered situations. 15 to 20 feet.

Catalpas are seldom seen. *C. syriaca* is a very fine-flowering tree, having white and yellow flowers in July or August; its variety *aurea* having yellowish leaves and flowers. Bunge's Catalpa is the finest of the genus; it (*C. Bungei*) forming an umbrella-shaped or half-globular head of massive bright green foliage; it is very suitable for display upon grass. 15 to 20 feet.

*Ailanthus glandulosa* can only be mentioned as being a handsome tree where it succeeds, but it does not do so in a cold situation; yet in a fairly sheltered place and in well-drained soil flourishes admirably. 20 feet.

*Euonymus europæus* (Spindle Tree) is very hardy, but only handsome from the bright colour of its fruit; the white-fruited variety (*E. europæus fructu-albo*) being very ornamental. The opening capsules are suitable for bouquets. 10 to 15 feet.

*Sophora japonica* in its finest form—namely, *pendula*, is very beautiful, flowering in August onward. In other than sheltered situations it does not succeed well, being out by frost, but grows freely again from the ripened wood. In well-drained soil it is most likely to do well. 12 feet.

SHRUBS.—For certainty of withstanding winds whether from sea or land nothing can excel the common Elder (*Sambucus nigra*), and it luxuriates in smoky town gardens. It is too common for gardens, and even shrubberies, but it may be useful for purposes of shelter. The Scarlet-berried (*S. racemosa*) is from its clusters of red berries very ornamental in late summer; and the Variegated Silver-striped (*S. nigra variegata*), and Gold-edged (*S. nigra aurea*), with the Cut-leaved (*S. nigra lacinata*) are worth a place in shrubberies. 8 to 12 feet.

Snowberry (*Symphoricarpos racemosa*) is noticeable from its twiggy spreading growth and very beautiful white berries in

autumn, and will grow almost anywhere, even under trees. *S. montana* has small leaves, and does well on high ground in peaty soil. The Variegated (*S. glomerata variegata*) is perhaps a little more select, but because some plants grow freely anywhere and anyhow they are in small request. 4 to 6 feet.

Sea Buckthorn (*Hippophaë rhamnoides*) is very ornamental in wood, having a fine silvery aspect; its yellow flowers are not remarkable, but its clusters of amber berries are very ornamental in late summer and autumn; to secure these it is necessary to plant male and female trees. It succeeds well in sandy soils or others on the coast, where it grows much taller than inland. In high and exposed situations it does not attain more than a few feet in height, but in favourable situations 10 to 12 feet.

Dogwood, after the leaves have fallen, has from its rich red twigs a very striking effect, especially in wet ground and in association with water. The Red (*Cornus sanguinea*) is very fine, of which there is a deeper-coloured variety—*atro-sanguinea*. The Siberian Scarlet (*C. siberica*) is even finer. The Dogwoods seen in their leafless state across water are simply grand; but it is masses that tell, and not dabs of colour by isolation frittered into nothingness. I have before mentioned the very beautiful Variegated Dogwood (*C. mascula variegata*) as being as beautiful in foliage as the others are in the colour of their bark. The trees do well in any soil, but like it strong and moist. 8 to 10 feet.

The Purple Filbert (*Corylus avellana purpurea* or *atro-purpurea*) has leaves as dark and rich as the Purple Beech, and is very effective; the Cut-leaved Filbert (*C. lacinata*) is also attractive. They do well in high or low situations when free from stagnant water in the soil. Tamarisk is very valuable for coast-planting, but inland it is of doubtful hardiness. The French (*Tamarix gallica*) is more tender than the German (*T. germanica*). They have a neat feathery appearance. 6 to 8 feet.—G. ABBEY.

#### A MINIATURE ORCHARD.

"I HAVE a piece of ground 150 yards long and 40 yards wide—a kind of valley, sloping from the centre to the sides. My house is in the centre of the valley. The ground is good and well drained, and I desire to occupy it with miniature fruit trees which will look well and yield fruit, principally for market purposes. I should like an equal number of Apples, Pears, and Plums. I am advised to plant the trees 6 feet apart in the following fifty varieties, which are recommended as being the cream of a good catalogue. My view is that fifty varieties are too many, and I should be glad to have such advice as could be rendered through the Journal, and which would also probably be useful to other amateurs."

The following, from one who has had experience in fruit-growing, is in reply to the above letter.

Had you sent a copy of Mr. H—'s letter to half a dozen of your correspondents you would have received as many different replies, and probably not two of them would have been alike. This proves that there is yet much to be learned on the question of useful fruits, and that discussion on the merits and peculiarities of different varieties is still needed. But although all the replies would almost certainly have differed from each other in the choice of sorts, yet I think all would have agreed, when considering the object in view (an orchard to "look well" and produce fruit principally "for market"), that "fifty varieties are too many."

For myself I should reduce the number considerably, even to the extent of excluding forty of them, retaining only ten. Others might not advise the exclusion of so many, or, if they did, might not retain the ten of my choice. My view is that first of all if the trees on the sloping sides of the valley are to "look well" from the residence they must be planted in rows, each being of one variety. I presume that a walk will lead down the centre of the fruit garden or "miniature orchard," and in that case I should plant the front rows on both sides of the walk with the same variety, choosing Cox's Orange Pippin Apple. This is a compact-growing free-bearing variety, and the rows would not only "look well," but the fruit would sell well in the market. The next two rows—that is, one on each side and at the back of the Apples—I would also have the same, choosing Rivers' Early Prolific Plum, the trees of which would also "look well," and the fruit would sell well. The third rows on either side I would again have Apples—one row of Lord Suffield and one row of Dumelow's Seedling, which I consider as being about the best of early and late culinary

Apples. The fourth row on each side I would have Pears—one row of *Bûre de Capiaumont*, and one of *Bergamotte Esperen*. The former is a very compact grower, free bearer, and a good market Pear; the latter being one of the best and most hardy of late varieties. The fifth rows on either side I should have Plums—one *Victoria*, and the other *Mitchelson's*, both great bearers; and the sixth and last rows on both sides (the back rows) I should have Pears—one *Louise Bonne of Jersey*, and the other *Bûre Diel*. The former is a Pear of great excellence, and the other is of great size; both are good bearers, and are "run after" in the markets. I have thus named four rows of Pears in four varieties, four rows of Apples in three varieties, and four rows of Plums in three varieties, making ten varieties altogether.

I should plant fifty trees in each row, which would be about 9 feet apart; the rows also being 9 feet apart, which, having the outer or back rows at 6 feet from the boundary, would afford ample room for a central walk. Each tree in a space of 9 feet would have room to develop itself, and form a useful and handsome specimen. I do not believe in pigmies, and any extreme crippling process to make and keep them so. No doubt there are hunchback slaves who are useful, and stunted animals which are serviceable; but I have a decided preference for stout development and good form in man, horse, or tree, as such I believe are the most profitable.

I will assume in an arrangement like the one proposed by Mr. H—that few will dispute the wisdom of planting each row with the same variety of fruit. If otherwise the orchard would have a "dotted" and unlevel appearance, and would not "look well." Also by having at least fifty trees of a sort there would be a sensible bulk of produce to send to market. Further, by limiting to a few sorts, care and labour in storing and keeping the fruit separate is minimised. Not many experienced growers will, I think, find much fault with the plan, but they may differ considerably in the selection of varieties. Now, it occurs to me that these differences if expressed might be very useful, and I am constrained to ask of those who may dissent from the selection here given—What varieties would you select instead, and why? I ask this question frankly, and with a desire for information for the many who are concerned in fruit-growing. By judging of the merits of varieties of fruit for forming the most profitable rows of fifty trees in each, it occurs to me that we grapple with a question of great importance. It is not what is termed a toy or fancy question, but a matter bearing directly on the fruit supply in its broad and most useful aspects.

I felt that in replying to the above letter that I had a difficult task before me, and I confess to a feeling of wishing the letter had been sent—well, anywhere but to me; yet, as I did not feel at all disposed to shirk the matter, and as I trust I shall never be unwilling to render my mite of assistance as leading to a better supply of useful fruit—profitable to the producer and advantageous to the consumer—I made the best selection that occurred to me. The question is this: Given twelve rows of trees, fifty in each row, of Apples, Pears, and Plums, what sorts would you plant to be most profitable?

Replies to that question could not fail to be useful, even to Mr. H—, whose letter I have quoted, for I have not quoted it all. It contains a postscript, and a very sensible one, in the following words:—"P.S.—I do not intend planting this season, but my plan is to manure the ground and work it well, to take a crop of Potatoes, which I find to be a good 'cleaning' crop, and plant the trees next autumn. My object is to obtain the best information I can in good time, so that I can give notice to my nurseryman to supply me with good trees, and to leave him without an excuse for sending them either inferior as to quality or untrue as to names."

I shall be much surprised if such wise caution and thoughtful preparation do not lead to success.—A MIDLAND COUNTIES FRUIT-GROWER.

### WINTER LETTUCES.

I HAVE noticed lately that the subject of obtaining a good supply of this very useful vegetable (which I am glad English people are beginning to find out is not poisonous in the winter months) has been ventilated in the Journal. I have for many years used, greatly to my satisfaction, for this purpose Looker's acme frames. They are very little trouble, and all through the early spring months they have afforded me a good supply of clean good Lettuces. The cleanliness is a great point, for out of doors it is almost impossible to have them clean. My

frames have remained in the same place for years; and immediately after the Lettuces are pulled I put on some manure and dig it in, removing the glass, but allowing the sides to remain. I either leave it fallow during the summer or prick out Celery into it, to be removed as soon as the plants are fit for the trenches. The Lettuces that I use for winter are Villmorin's White, Sutton's Commodore Nutt, and Wheeler's Tom Thumb, none of them being so ready to run as the old Hammersmith, which is, however, very hardy. I have often wondered that these frames are not more used, especially in small gardens, for they are useful for a great many purposes and are neat in appearance.—D., Deal.

### A GARDEN OF HARDY FLOWERS.—No. 3.

VERY numerous are the gardens in which space cannot be afforded for such a border as was described in page 440, but there is not one garden, however small it may be, wherein a selection of the best flowers might not happily be introduced. It is surprising how much may be done by turning every patch and corner to account. In many a small garden it is customary to convey all the mowings, sweepings, and general refuse to a rubbish heap in some out-of-the-way corner, behind some such screen as a shrub border affords. Access to this corner is gained by a path winding among—often beneath—the branches of the shrubs. In so confined a space even this walk looks inviting, especially in the hot summer days, but it is of course avoided. Now suppose we turn this rubbish heap to its legitimate purpose of enriching our borders, and convert the corner into a cosy little fernery; fringing the sides of the walk too with Ferns, concealing the enclosing wall or fence with Ivy—not all of one sort, but with a mixture of several—and shall we not add a charm to the garden which very few would fail to appreciate? If Ferns are cared for very much we may extend our collection by converting the wall itself into a fernery. There are many ways of doing this; but the most simple and best plan is to drive a few stout staples into the wall, to which some common wire netting can be fastened with wire, keeping the netting about 6 inches from the wall, packing the intercedent space with moss and rough leaf soil, and we have a model fernery in which most Ferns will flourish. Nor need we confine it entirely to Ferns, for we may readily impart variety by the introduction of such Sedums as *Sieboldii* and its variegated form, with such other plants as the common and golden varieties of *Moneywort*, *Oxalis corniculata rubra* for its dark foliage, and *Oxalis Bowiei* for its fine crimson flowers. With a little contrivance and management of the soil there need be no difficulty in cultivating many other plants upon our wall, and which I hardly need select, as my readers will all have their own especial favourites; and I have no wish to dogmatise, but would rather point the way and leave each one to turn my hints to account in accordance with the promptings of fancy or taste.

Thus much for the Ferns and the fernery to which I have unintentionally strayed; and it occurs to me, before I revert to those perennials which we cherish for the beauty of their bright flowers, that it may be well to note here a few really choice Ferns that are not much known, but which are so distinct and striking as to merit general attention. The first of these is *Lomaria magellanica*, the Falkland Island Fern, to which I drew attention very lately as flourishing so well in the rock garden at Newick Park. The pinnate fronds are remarkable for their stout texture, stately appearance, the glossy green upper surface of the pinnae, and the deep pink hue of the sturdy stems. The Ostrich-plume Fern, *Struthiopteris germanica*, is another fine hardy Fern with most elegant frondage that in old plants grows fully a yard high; these tall but sterile fronds, springing up around the crown in a circle of singular precision, enclosing an interior growth of comparatively dwarf fertile fronds; the entire plant presenting a striking and most ornamental appearance. Another Fern having this interesting characteristic of producing fertile and sterile fronds is *Onclea sensibilis*. It is a distinct and most desirable species, especially adapted for moist damp situations, putting forth creeping stems which spread underground with considerable rapidity. *Adiantum pedatum* with fan-like fronds, and the more common form of Maiden-hair Fern, *A. Capillus-Veneris*, are also very distinct and good. Without entering further upon descriptions I may strongly commend *Woodwardia radicans*, the two *Osmundas*—*gracilis* and *spectabilis*, and *Cystopteris bulbifera*. I would also here draw especial attention to the value of *Selaginella denticulata* for clothing with its



mossy yet free growth bare spaces under trees. Amateurs are often puzzled how to dress such spots, yet here is a plant most common in the greenhouse and conservatory, yet it is perfectly hardy, thriving best in drip and shade, and is certainly no unworthy rival of the Ivy which is almost always used in shady places.

Turning now to the thought which induced me to write this article—the want of space for a border of perennials, I am led to the conclusion that if I have a fernery behind shrubs I can just as readily have bright flowers in front of them. Not all along the front, our space is perchance too restricted for that; but can we not gain space for clumps and patches by cutting back or re-arranging the shrubs at one point and removing a strip or two of turf at another? Most certainly we can; and if we cannot have many varieties we can surely have a few of the very best; and by devoting especial attention to their culture we may derive as much or even more pleasure from them than is often had from an extensive collection left very much to take its chance. And this leads me to a subject of especial importance to amateurs, and to which I will allude on a future occasion.—EDWARD LUCKHURST.

### NATIONAL ROSE SOCIETY.

#### CONFERENCE OF ROSARIANS AT THE HORTICULTURAL CLUB.

WHAT may be termed “the power of the Rose” was never more fully exemplified than by the gathering together of professional and amateur cultivators on Thursday last the 7th inst. One cannot conceive it possible that any other flower, native or foreign, could have commanded a response so numerous and influential as the assemblage in question. The summons convening the meeting stood on its own merits, and was not backed with a list of influential names. It was an invitation for devising some satisfactory arrangements as to the future of Rose shows, and to discuss the question as to the formation of a National Rose Society. That was a sufficiently tempting programme, and the large room was crowded with representative growers from various parts of the country. Neither was it a social gathering wholly—a pleasant opportunity for an interchange of greetings by the members of the great Rose fraternity. It was that of course, but much more than that, for the tone of the meeting was decidedly of an earnest business character; and the excellent Chairman had little difficulty in concentrating the discussion to a few practical matters of a fundamental nature relative to the establishment of a Society on a sound basis, and making sufficient provision for its successful management. Everyone assembled was, as Mr. Camm put it, “tremendously loyal” to the queen—the Rose, and the one object of the meeting was to extend, improve, and encourage its superior cultivation. Amongst the company we noticed Revs. Canon Hole, J. T. Boscawen, H. H. Dombrain, C. H. Bulmer, J. B. M. Camm; Capt. Christy, Cranston, G. Paul, Dr. Hogg, Dr. Masters; Messrs. Macintosh, Noble, Cant, Laing, Turner, W. Paul, Adams, Baker, Prince, Cutbush, Curtis of Chatteris, Rivers, Cator, Mayor, Dickson of Covent Garden, Killick of Maidstone, Scott, Robinson, Mayos, Tootell, Mawley, Roberts, Ball, Maurice, Young, Bensted, and A. Paul.

The meeting was convened for two o'clock, but after waiting for some time for the arrival of the Rev. Canon Hole, who by general assent was chosen to preside over the proceedings, the Hon. and Rev. J. T. Boscawen was requested to occupy the chair, and assented on the condition that he was a provisional chairman pending Mr. Hole's arrival. Dr. Hogg was placed in the vice-chair. The Chairman proceeded at once to business by requesting the Secretary to explain the origin of the meeting and to state the objects of its promoters.

The Rev. H. H. DOMBRAIN, who was warmly received, stated that few, on considering the past and reflecting on the present circumstances influencing Rose shows, also in thinking over the future, could consider the prospects as otherwise than gloomy. The Alexandra Palace for the present might be regarded as dead; the Westminster Aquarium as dying—that is, so far as regarded horticultural exhibitions, none of which he believed would be held in the building next year. The Royal Horticultural Society was in a doubtful position; and the Crystal Palace shows were not what they once were, inasmuch as the time of the shows had been extended to two days, while the prizes had been restricted. Neither of these changes could be countenanced by growers and exhibitors, for both of them had a discouraging tendency. The position, therefore, of Rose-growers was gloomy, and hence he communicated with some of them, suggesting the desirability of taking matters into their own hands by way of effecting some substantial improvement. He had had many replies, one from Mr. Baker stating that the formation of a National Rose Society had been already proposed at the festive

board of Mr. Cranston at Hereford, and to which proposal Mr. George Paul had promised his assistance and support. He had received letters also from Mr. Hole, Mr. Turner, Mr. Prince, and many others. The favourable views of his many correspondents, and the suggestions he had gathered from their letters, led him to decide that the time was opportune for the holding of a Rose conference in London to decide on such resolutions which might be deemed necessary for furthering the object in view. He therefore by circular and through the gardening press invited the presence of rosarians at the Horticultural Club. He had received many letters of apology from friends unable to attend the conference, but an encouraging unanimity was expressed by the writers as to the desirability of forming a National Rose Society, and an equal unanimity as to the objectionable nature of two-days shows. Mr. Dombrain then earnestly expressed his thanks for the confidence reposed in him, was deeply gratified with the splendid response of the present meeting, and was sanguine that the deliberations of a body so earnest and influential would result in placing the Rose in a more worthy position than before. The speaker was loudly cheered.

Rev. Canon HOLE now entered the room, and met with hearty expressions of welcome, and he occupied the chair, which was promptly vacated by Mr. Boscawen. The Chairman thanked the meeting for the proud position in which they had placed him, and the more so as the honour of presiding over them was on his part quite unexpected. He thanked especially his esteemed friend Mr. Dombrain for taking the initiative in a matter which was so interesting to all who were present and to many who were absent. He felt the present to be the most auspicious event that had happened in his Rose career since his connection with the “old Society.” He had always thought the giving-up of the old National Rose Society was a mistake. That Society was well established, and successful shows were held. Most people were satisfied, but a few were, perhaps, overworked and became languid, and their Society was handed over to the Royal Horticultural Society. That was not a happy alliance, for the Rose Society became a mere postscript to the R.H.S.—a position which he and many others were not satisfied with, as being too humiliating for the flower which they all cherished so highly. He was happy, therefore, in the fresh start now made to place the Rose in a better position, and he now had great hopes of a really strong representative society being established, and grand shows and general encouragement would follow as the result of their united efforts. He regarded the meeting, however, as one of work rather than words, and would at once call on Rev. C. H. Bulmer of Credenhill, Hereford, to propose the first resolution.

Mr. BULMER, who met with a gratifying reception, said that it would ill become him in taking up the time of horticulturists by theorising, or still more dogmatising, on the subject before them; he would simply narrate his experience, and throw out an idea which he thought was deduced from past transactions and past failures. He had the privilege of following the lead of the Chairman in the campaign of 1858 in connection with the National Society, which held its great Show in St. James's Hall. That Society had failed. He had for ten years been the Honorary Secretary of the West of England Rose Show—a Show which had become widely popular, and which was connected with a generally good and strong Society; but in that Society defects existed which occasionally gave the managers much trouble. He did not feel it necessary to particularise these defects, for he believed that they and all shortcomings might be averted by establishing or reviving the National Rose Society as a high central and administrative authority, the influence of which would be far-reaching and generally beneficial. He believed that a strong, practical, and influential society, such as the present meeting was competent to establish, would be a society of which the country would be proud, a society at once authoritative and permanent, and of the utmost importance in the Rose-loving world. To this end he moved the first resolution, “That the National Rose Society be revived.” This was seconded by Mr. Turner of Slough.

The CHAIRMAN, before putting it to the meeting, suggested that the wording of the resolution should be altered by substituting the word “Show” for Society, but

Dr. Hogg thought the Society should be established first, and a national show would follow as its most important expression, which being generally assented to, the resolution as first proposed was passed unanimously.

The CHAIRMAN then requested Mr. Dombrain to give a sketch of the ideas of the promoters, from which the meeting might be able to frame and adopt further resolutions.

Mr. DOMBRAIN stated briefly, the idea was that a National Rose Society should be formed, and that local societies should be affiliated with it, London being the Rose centre. That the first Show of the Society should be held in London, afterwards having Shows in other places as might be determined on, but wherever the Society's Show is held it must be considered as the Show—the Rose Derby of the year. That the Show should be a Rose Show wholly, no plants being in connection with it, and no music. That the first Show should be held in

St. James's Hall, and subsequently in such places, as Hereford, Manchester, Birmingham, Exeter, &c., as might be arranged, the place selected, of course, providing a guarantee fund to meet necessary expenses.

The CHAIRMAN now asked that a proposition be made, when Mr. GEORGE PAUL proposed that the Society's first Show should be held in London, which was seconded by Mr. Baker, who observed, however, that a Show should be held in London every year.

Rev. J. B. M. CAMM thereupon proposed that one Show be held in London every year, and that it be held at St. James' Hall or Willis's Rooms in June—"Oh! Oh!" from the northerners.) Mr. Camm observed that country shows generally betray failure more or less in some form, and instanced Hereford, where the largest balance ever forthcoming was 4d. [laughter.] He proposed, therefore, one splendid Show in London every year, with large prizes.

Mr. BULMER was in favour of the Shows being itinerant.

Mr. KILLICK, Maidstone, suggested the holding of one Show in London, and giving aid also to one country show, to which Mr. Baker agreed.

Mr. G. PAUL was also in favour of giving assistance at once to some local shows, so as to spread the influence of the Society as widely as possible. He would say, Let the London Show be grand, but assist also the affiliated societies.

Mr. TURNER said his policy was to do one thing at a time, and do it well.

Mr. DOMBRAIN thought it would be wise to decide on having the first show in London, and leave the question of succeeding years, and afterwards be guided by such experience as would be gained. This view of the question was supported by Mr. Turner and Mr. Cant, and a resolution to that effect was cordially agreed to.

Considerable discussion took place as to the best site for the Show, the Agricultural Hall, Regent's Park, Willis's Rooms, and St. James' Hall being named, and eventually St. James' Hall was decided on, to be secured for July 1st or June 28th. The Chairman here created some amusement by producing a bill in which in gigantic red letters the National Rose Show would be held in the St. James' Hall on July 1st, an old bill of the Show of 1853, which Mr. Camm proposed should be photographed.

The next subject, that of members' subscriptions, gave rise to much earnest discussion.

The CHAIRMAN suggested that these should not be large, but that they should rather be fixed as low as possible, in order to secure a large number of members, leaving the question of donations open as a privilege for those who were generously disposed to aid the Society in that mode of honouring themselves. The Committee of the Horticultural Club, it was here mentioned, would afford room for the Rose Society to transact their business, an intimation which was much appreciated.

Mr. GEORGE PAUL, speaking on the question of subscriptions, thought that an important object to be borne in mind was to gain the affiliation of all local societies and Rose clubs, and to make provision for the embodiment of such clubs on the payment of a subscription to be determined on.

Mr. CAMM thought that nurserymen should pay a great deal more than amateurs; for instance, if he and some of his friends (the small amateurs) were to pay a guinea, his other friends (the great nurserymen) should pay five guineas. The nurserymen would be the principal gainers if the Society became prosperous, and the greatest losers if it collapsed.

The CHAIRMAN observed that it was true that the nurserymen might suffer in pocket if the Society were to fail, but it was equally certain that the amateurs would suffer in mind. To prevent suffering in any form,

Mr. CURTIS, Chatteris, proposed an annual subscription of 10s. as being a reasonable sum for anyone to pay, and he thought that by fixing it thus moderate the large number who would become members would produce a sufficient income for the purposes of the Society. This was seconded by Mr. Cranston.

Mr. BAKER considered a 10s. subscription far too small, and especially for the first year.

Mr. CAMM was of the same opinion, and reminded the meeting that in the case of local societies, such as Exeter and Hereford, the annual subscription was a guinea a-year.

The CHAIRMAN thought they must remember that there were very many earnest and able cultivators of the Rose who would feel it a privilege to become members of the Society, yet who would be unable to do so if the subscription was large. He would not willingly shut out any true rosarian, however humble he might be.

Mr. CANT, as a nurseryman, then proposed that all of his craft should pay five guineas each as a start, and as showing a way of being generous to small growers; but

Mr. DOMBRAIN thought that to agree on a resolution of that kind would be too binding on those who were absent, and he much preferred a simple contribution of 10s., and hoped for donations being offered of various amounts which would be sufficient to give a substantial start to the Society.

Mr. BULMER found in his experience in soliciting support for the Society with which he was connected that he obtained much more money by applying for sums of 10s. than he did by asking for guineas. His policy, therefore, had been to base his expectations on a large number of small sums rather than on a few gifts of greater separate amounts. After this discussion Mr. Curtis's proposition was put in the form of a resolution, and was carried with scarcely a dissenting voice.

The CHAIRMAN proposed that a paper should be passed round for names of subscribers, each gentleman to have the privilege of adding to his name whatever sum he chose to offer as a donation. (During the entering of names the Hon. and Rev. J. T. Boscawen mentioned his gift of two ten-guinea silver cups, to be offered for Tea Roses at Bath; and Mr. Cator also spoke of the determination of the west to make the Bath Show successful.) On the list being returned to the Chairman he made the gratifying announcement that the donations offered amounted to nearly £80, a result which was received with much cheering.

Mr. BULMER now had the pleasure of announcing that Mr. Horace Mayor, Winchmore Hill, had consented to act as joint Secretary with Mr. Dombtrain; on which the Chairman observed that all who had had a taste of being secretary would be heartily satisfied that they themselves were not appointed, and that these gentlemen were not only willing but competent for the duties of the office.

Mr. CANT remarked that all knew Mr. Dombtrain and admitted his qualifications; but Mr. Mayor, he felt, was a stranger to many, and he thought the meeting would like to hear whether he was a practical Rose grower as well as a willing worker on behalf of the Society. To which Mr. Dombtrain replied that Mr. Mayor was a really earnest and able rosarian, and he should feel him on that and other grounds as being a valuable coadjutor. Mr. Mayor resided in the same locality as himself, and on that account also his appointment would be convenient. The appointment of Mr. Dombtrain and Mr. Mayor as joint Secretaries was then agreed upon with unanimity.

The CHAIRMAN remarked that the next question requiring to be settled was the election of a Committee, and he was inclined to suggest that the whole of the gentlemen present might well be enrolled as a Committee of the National Rose Society. The number might be large, but it would at the least appear invidious to make exceptions when all alike were earnest and able to assist in the management of the Society. To this suggestion there were sundry replies of "too large," whereupon

Dr. HOGG thought it well to remember that if the numbers there assembled were great they not only represented a National Society, but that the members were necessarily scattered over a wide area, and without a large committee it would be difficult at times to get a strong body together in London for the transaction of business. General assent was given to this view of the question, and

Mr. CAMM created no small hilarity on remarking that he hoped they would all be appointed, because that would afford him an excuse for coming to London. He should often like to be there, but had a difficulty in finding a plea on which his presence was required, but circumstances were now taking a favourable turn.

On the proposition of Mr. Boscawen, seconded by Mr. Curtis, it was resolved that the whole of the members present should form the Committee of the Society.

A discussion next ensued on the nature of the prizes to be offered by the Society, but without, however, arriving at any definite conclusion beyond that it was a matter which the Committee would be better able to decide upon when more experience had been gained and a further accretion of members had been enrolled.

The question of two-days shows was then introduced, and many spoke in no uncertain sound against their encouragement and continuance.

The CHAIRMAN thought they were not likely to be adopted, but was not sure that it would be worth while passing a resolution on the matter when a strong expression of opinion was likely to answer their purpose. His friend Mr. Pochin, whose opinion was entitled to great weight, was doubtful as to the propriety of denouncing them on account of the limited nature of the Rose season, and the loss which might follow in some cases were they not permitted; he thought the matter would find its own level. Mr. Gould had already expressed his opinion in the *Journal of Horticulture* against the continuance of two-days shows, and still adhered to the opinions therein expressed; and Mr. Ellison had stated in a letter that to visit a Rose show on its second day was about as melancholy a task as visiting the corpse of a departed friend. After a considerable interchange of opinion,

Mr. CAMM proposed that the meeting do pledge itself against two-days shows, as being annoying and expensive to exhibitors and insulting to the Rose.

Mr. CANT agreed with much that had been said by Mr. Camm, but could hardly pledge himself for fear of causing loss to others. He would discourage, but not formally refuse.

Mr. DOMBRAIN thought that as the Crystal Palace was only in question it would be sufficient for the managers to be made acquainted with the tone of the present meeting. Others, however, were unwilling to thus leave the matter, and the following resolution was put to the meeting and carried, "That this meeting pledges itself not to countenance a two-days show."

The important matter of judging was then brought forward by the Chairman, who said the National Rose Society should not only have the best judges, but a sufficient number of them to judge not only well but quickly. He rather thought that a good plan for choosing judges would be for each amateur to send in the names of six nurserymen, and each nurseryman to send in the names of six amateurs, and from these the judges be selected according to the number of votes given.

Mr. BAKER remarked in this question a wide field of discussion was opened. He detailed what might be termed the individual "fancies" of some judges carrying at times undue weight in the decisions, and thought it very desirable that some definite standard should be fixed, so that an acknowledged rule of procedure could be followed in the adjudications.

Mr. CANT considered at almost every great show the judges had more classes apportioned them than they could properly manage, and strongly urged the desirability of having more judges.

Mr. DOMBRAIN cordially endorsed Mr. Cant's remarks. He (Mr. Dombain) had often protested against the amount of work which judges had to do in a great show. No work was more exhausting than working hard and long in judging Roses, and, unfortunately, the harder they worked—the more classes they had to judge—the more likely they would be to err in some of their decisions.

Dr. HOGG thought that the selection of judges should be made at each annual general meeting of the Society, when a good attendance might be expected, and not to depend on a small meeting for determining a matter so important.

The CHAIRMAN before bringing the meeting to a close thought it would be well to throw out an idea for after-consideration, as to how far they could arrange a show so as to give encouragement for the growing and arranging Roses, say in the form of a rosery, and

Mr. CRANSTON hoped that bedding Roses and Roses for general garden decoration would not be lost sight of.

A hearty vote of thanks to the Rev. Chairman for his ability in presiding brought to a close the enjoyable, business-like, and well-conducted conference.

### MANAGEMENT OF FRUIT TREES.

I WAS more than pleased with Mr. Taylor's communication on foliage and its relation to the colour and flavour of fruits on page 439. Although we may be able in some small measure to appreciate the long and learned papers of illustrious men, yet who of us have the time even to do so? I have often been amazed when I have been through some of these scientific papers to think what they must have cost the writers—what patience, apart from the toil, such investigations must have occasioned. All I can say is that we are under a great debt of obligation to such men, yet we must not undervalue such practical papers as we often read in the Journal and other kindred publications. What a contrast is our means of acquiring knowledge to the gardeners of fifty years ago! I was forcibly reminded when reading Mr. Taylor's article of my own experience when I practised tree-lifting. The leaves as to size and texture were quite a contrast to leaves of trees under ordinary cultivation. The Pears especially were mostly of the substance of the common Laurel and so glossy as to be like a polished mirror, and of course the fruit was all that could be wished as to size, colour, and texture, so that I was often told by customers, "We cannot get such in London," or "We never saw such in Covent Garden." Apples, too, were fine, as also Cherries and Plums.

I noted too the force of the remark I read only a few days ago—"That if you do not supply proper food for the roots they go a long way in quest of it." This I know to be true. I well remember when quite a boy what interest I took in planting stocks to work, and in a sort of freak I planted one stock in nearly all leaf soil, just to see what the result would be. I expected to have a very strong growth, but instead of this there was not a branch over a few inches in length, but such leaves as I had never before seen; so when the autumn came I was very anxious to see what the roots were like, and I do not even now forget how surprised I was—not a root, strictly speaking, but such a mass of fibres so closely set that there did not appear a space between them, and not one gone beyond the new soil. This was what in a great measure took place in tree-lifting. The new soil produced a beautiful lot of fibres,

and the growth was not robust, only a very few inches long, but often six to ten large leaves to an inch, and equally fine buds and flowers following far beyond ordinary flowers.

Now, it is my impression (I may of course be wrong) that such flowers and such growth had a greater power to resist change in temperature; but be that as it may, the best foliage produced the best fruit. This is quite in accordance with Mr. Taylor's experience—best-looking best in flavour—indeed best in every way.

In my experience there is great difficulty in maintaining trees in perfect health without root-lifting—I do not say root-pruning merely, for I do not think this would be sufficient. I will not now go into the comparison between non-pruning and pruning, root-lifting and non-lifting, but will leave this for some future time.—GEORGE LEE, *Cleveland*.

### ROYAL HORTICULTURAL SOCIETY.

ALLOW me to answer one or two questions. Why do we canvass the country for one-guinea and patron four-guinea Fellows instead of trying for Fellows subscribing two guineas?

First, because it has now been shown that a very great many people interested in gardening will subscribe a guinea on general principles to what they believe will be a really useful Society, though they live at such distances from London that they can expect little direct personal good from it?

Secondly, because it is most important that the Society should include as many as possible of the foremost horticulturists of the country of all ranks in full fellowship; and not a few of them, of good position and with considerable influence, have but few guineas to spare and many calls on them.

Thirdly, because the broader the basis the Society rests on the better, the difficulty of collecting subscriptions being not very serious; witness the National Rifle Association and Royal Agricultural Society.

Fourthly, because there are a considerable number of enthusiastic horticulturists with ample means who are willing to lend a helping hand to the Society, especially under its difficulties of transformation, by subscribing £4 4s., for which they will receive a ticket admitting self and friend, and have the right to a second ticket admitting their head gardener to all the Society's shows.

The interest in the guinea fellowships keeps widening. The last post brought in adhesions and names from Durham, Cornwall, Yorkshire, Pembrokeshire, and two from Warwickshire.—GEORGE F. WILSON.

### MANAGEMENT OF HYACINTHS.

ABOUT six or eight weeks after the bulbs have been potted and plunged they will be furnished with roots, and commence making growth. As it is not desirable to have the foliage drawn up weakly, they should be removed from the bed as soon as they grow freely and be placed in a cold frame, excluding frost, and keeping them darkened for a few days. From this frame they may be drafted into the forcing house as required.

In forcing Hyacinths good results may be obtained by placing them in mild bottom heat, and keeping them as near the glass as possible. They should have liberal supplies of water, and liquid manure occasionally, when the pots are well filled with roots. When sufficiently advanced they may be placed on a shelf where they can have free circulation of air, so as to develop the foliage, for long thin leaves are most objectionable; they should be short and sturdy, this being nearly of as much importance as good flower spikes, and can only be obtained by placing the plants near the glass. As soon as the spikes require support they should have stakes of wood or wire put to them, and it must be done with care to avoid injuring the bells. After flowering place the pots in a frame or out of doors until the foliage decays, when the bulbs may be taken up and stored in a dry place, and they will do for planting in the borders in the autumn.

Hyacinths, which are easily grown in glasses, require attention occasionally. The bulbs should just or not quite touch the water. It is not always requisite to change the water, which may be kept pure by placing a piece of charcoal in each glass. As the water lowers through feeding of the roots and evaporation, fresh may be added, but it must be of the same temperature as that in which the plants are growing. The glasses should remain in a cool dark place until they are filled with roots, when they should be removed by degrees to the

light and air, for the more light and air the plants have, the shorter will be the leaves and spikes and brighter the colour of the flowers.

Hyacinths planted in beds will require no more attention than protecting the beds during very severe weather. When in bloom care should be taken to have the spikes supported with stakes, or in rough weather the stems will be broken or the flowers disfigured. It is a beautiful sight in spring to look upon a group of beds well filled with Hyacinths of various colours. Their beauty may be prolonged by placing an awning over them to protect them from the sun and rain. After flowering and the leaves have decayed the bulbs may be lifted and dried, and they will come in useful again for the borders another season by affording small spikes of flowers to cut from.

—ALFRED ALDERMAN.

### THE ROSE CONFERENCE.

A MISERABLY dull winter's day, the rain pouring down; a long, low, dark room, through which the feeble light only penetrated a few feet; a long table all down the room, at which are seated rosarians from every part of England. Such was the scene of last Thursday at the Horticultural Club.

What means it? What has brought Hercules from Exeter, Reynolds Hole from Newark, Cant from Colchester, Paul from Cheshunt, and Cranston and Bulmer from Hereford—at this time of the year too? Not the cattle show! No, don't say that. Fond as we may be of beef in the shape of a well-cooked sirloin, we don't come up two hundred miles more or less to look at fat stock. Not a dinner, dear as it is to Englishmen—and though I believe a dinner was the appropriate end of the meeting—but simply love for the Rose, and an eager desire that her claims as the queen of flowers should still be recognised by, if not the public, at least by all true rosarians, at an exhibition in London during the coming year.

But someone will ask, Are there not already good Rose shows in London? Are not the classic shades of Brompton Boilers consecrated once a-year by the presence of the Rose? Is not the huge glass house at Westminster, called an Aquarium, where there were no fish, and a Winter Garden now because there are no flowers—is not this building devoted once a-year at least to the worship of Rosa? Is not, too, a small edifice in the north of London, called after the fair daughter of the northern sea, beautified for one day at least in the twelvemonth by the choicest gifts of Nature? All these are delights of the past, not to be enjoyed again. They may live, perhaps in the memory, but that is all. Alexandra Palace, Aquarium, and Horticultural Gardens are extinct so far as Rose shows are concerned; and if we want to show our queen of flowers to our town relatives, and to give to the general public their accustomed treat of a feast of sweet things, we must take time by the forelock, conceive, and carry out some good scheme.

This was felt by all rosarians, and no doubt equally so; but it chanced that at the hospitable board of Mr. Cranston of Hereford, on the evening of the West of England Rose Show, a few of the more illustrious members of Rosa's court were gathered together, and they hit upon the scheme of reviving the old National Rose Society. A certain man who is not unknown to your readers, seeing that nearly every number of "our Journal" has a letter signed "D., Deal," determined to press the matter, though, judging by his name, he was but a poor wooden support, yet in deed a man of iron nerve and action, and he sent round circulars to all the leading rosarians, nurserymen, and amateurs, calling a meeting for the 7th of December, and asking them to attend for the purpose of forming a National Rose Society.

And well the rosarians responded—from north and south, east and west we came. The wise men from the east came, as is fitting at this season, in great force, and, strange to say, their number was three!—Messrs. Cant of Colchester, George Paul of Cheshunt, and W. Paul of Walkham. From Devon there came Hercules, and from Oxford we had the Seedling Briar; from Surrey, Captain Christy and Mr. Noble; from Hereford Messrs. Bulmer and Cranston; from Nottingham the Chairman (Rev. Reynolds Hole); and from Kent Malle. Marguerite Dombrain—I beg pardon, I mean her brother, Honeywood Dombrain; but I am so accustomed to writing the former name on labels that I keep thinking there is only one Dombrain who has anything to do with Roses. Most of the editors of the horticultural journals were also present. Never at any great London exhibition have I seen such a gathering; and a glorious thing it was to see how men from all parts of England

put themselves to inconvenience rather than refuse to rally at the call of the Rose, our queen.

The meeting was, in the opinion of old rosarians, the most successful ever held. A National Rose Society was formed, £80 was subscribed in the room, the day and place for the first show was fixed, secretaries and committee were chosen, and all went merry as a marriage bell. If the National Rose Society does not prove successful it will not be because the preliminary meeting was not well supported, for everything that is required to make a meeting a success was present on Thursday—unanimity of feeling, great enthusiasm, and what is more (and this is a crucial point) a general liberal unbuttoning of the pockets.—WYLD SAVAGE.

### NEW BOOK.

*The Effects of Cross and Self-fertilisation in the Vegetable Kingdom.* By CHARLES DARWIN, M.A., F.R.S. London: J. Murray.

THIS volume is well deserving perusal by all gardeners who desire to understand thoroughly the scientific foundations of their art. We can only make one extract, but it epitomises the fuller details of the work.

"The first and most important of the conclusions which may be drawn from the observations given in this volume is that cross-fertilisation is generally beneficial, and self-fertilisation injurious. This is shown by the difference in height, weight, constitutional vigour, and fertility of the offspring from crossed and self-fertilised flowers, and in the number of seeds produced by the parent plants. With respect to the second of these two propositions—namely, that self-fertilisation is generally injurious, we have abundant evidence. The structure of the flowers in such plants as *Lobelia ramosa*, *Digitalis purpurea*, &c., renders the aid of insects almost indispensable for their fertilisation; and bearing in mind the prepotency of pollen from a distinct individual over that from the same individual, such plants will almost certainly have been crossed during many or all previous generations. So it must be, owing merely to the prepotency of foreign pollen, with Cabbages and various other plants, the varieties of which almost invariably intercross when grown together. The same inference may be drawn still more surely with respect to those plants, such as *Reseda* and *Eschscholtzia*, which are sterile with their own pollen, but fertile with that from any other individual. These several plants must therefore have been crossed during a long series of previous generations, and the artificial crosses in my experiments cannot have increased the vigour of the offspring beyond that of their progenitors. Therefore the difference between the self-fertilised and crossed plants raised by me cannot be attributed to the superiority of the crossed, but to the inferiority of the self-fertilised seedlings, due to the injurious effects of self-fertilisation.

"With respect to the first proposition—namely, that cross-fertilisation is generally beneficial, we likewise have excellent evidence. Plants of *Ipomœa* were intercrossed for nine successive generations; they were then again intercrossed, and at the same time crossed with a plant of a fresh stock—that is, one brought from another garden; and the offspring of this latter cross were to the intercrossed plants in height as 100 to 78, and in fertility as 100 to 61. An analogous experiment with *Eschscholtzia* gave a similar result as far as fertility was concerned. In neither of these cases were any of the plants the product of self-fertilisation. Plants of *Dianthus* were self-fertilised for three generations, and this no doubt was injurious; but when these plants were fertilised by a fresh stock and by intercrossed plants of the same stock, there was a great difference in fertility between the two sets of seedlings, and some difference in their height. *Petunias* offer a nearly parallel case. With various other plants, the wonderful effects of a cross with a fresh stock may be seen in Table C. Several accounts have also been published of the extraordinary growth of seedlings from a cross between two varieties of the same species, some of which are known never to fertilise themselves; so that here neither self-fertilisation nor relationship even in a remote degree can have come into play. We may therefore conclude that the above two propositions are true—that cross-fertilisation is generally beneficial, and self-fertilisation injurious to the offspring."

### THE NATIONAL AURICULA SHOW.

I EXCEEDINGLY regret to find that an observation I made with regard to this Show has given cause for observation. The fact is that I misunderstood Mr. Horner's letter to the Secretary, and thought that the National was to be held in the north, and a national one in the south. I am very glad indeed to find that I was mistaken. When the last National Show was held at the Regent's Park I had a good deal to say to it, and no one can more thoroughly rejoice in the thought that the



great tournament of my favourite flower is to be held in London, and I wish it every success.—D., Deal.

### AN ELECTION OF APPLES.

THIS is a very good notion, and I hope will be caught up by orchardists who grow fruit for sale, and by amateurs with whom the Apple is a favourite, and who, perhaps, grow the trees principally as espaliers or pyramids. As this is such an age for exhibitions I would say that classes best suited for this purpose for all seasons be added to Mr. Robson's otherwise admirable arrangement. The two terms, "beauty and utility," seem to point out the requisites for exhibiting, save perhaps in some very marvellous-sized fruit, like the huge Pears at a London dessert which are only to look at. I can scarcely understand that any really bad-tasting and useless Apples should, even with good looks, be cultivated. The Apple is the poor man's fruit as well as the fruit of the middle classes, and its importance as an addition to food can scarcely be over-estimated.

"A MIDLAND COUNTIES FRUIT-GROWER," whom I thank for his valuable article of November 16th, somewhat mistook my meaning as to midseason Apples. I want to know the best among them as for other seasons, but usually there are so many in gardens that people would hesitate to cut them down to make room for others. While the very early and the very late being so few, these could be added to existing stocks of trees.

I must add in conclusion that it gives me unfeigned pleasure to see papers again with the good old signature of J. Robson at their end. Right glad am I that the instructive-writing veteran of so many past years is again well enough to give us the fruits of his great experience; and Mr. Robson is and always has been such a thoroughly sensible writer, that he may long be spared to us is the sincere wish of—WILTSHIRE RECTOR.

### THE HORTICULTURAL CLUB.

THE annual Meeting of the Club was held on Wednesday last at the Club house, 4, Adelphi Terrace, and it is in a condition so flourishing that it was determined to invest a considerable sum in the three per cents. Several new members were proposed, and the arrangements for the comfort of the members were considered excellent. After the meeting the members dined together under the presidency of the Hon. and Rev. J. T. Boscawen. The following is the list of the Committee for the ensuing year:—Herbert Adams, Enfield Chase; J. T. Bartlett, Peveril Park, Aylesbury; Henry Bennett, M.D., The Ferns, Weybridge; Wm. Bull, King's Road, Chelsea, S.W.; Hon. and Rev. J. Townshend Boscawen, Lamorran, Truro; Albert Christy, Buckhurst Lodge, Westerham; Philip Crowley, Waddon House, Croydon; James Cutbush, Highgate, N.; George Deal, 11, Carlyle Square, Chelsea, S.W.; John Denny, M.D., Stoke Newington, N.; Robert Hogg, LL.D., 99, St. George's Road, Pimlico, S.W.; Rev. S. Reynolds Hole, Cauntton Manor, Newark; Andrew Henderson, Pine Apple Place, N.W.; John Lee, Royal Vineyard, Hammersmith, W.; W. A. Lindsay, 16, Cromwell Road; Horace K. Mayor, Winchmore Hill, N.; Thomas Moore, Botanic Gardens, Chelsea, S.W.; Maxwell T. Masters, M.D., Wellington Street, Strand, W.C.; Charles Noble, Bagshot; Charles Turner, Slough; Harry J. Veitch, King's Road, Chelsea, S.W.; George F. Wilson, Heatherbank, Weybridge; B. S. Williams, Holloway, N.; Maurice Young, Godalming. Secretary, Rev. H. Honeywood Dombrain, Westwell Vicarage, Ashford, Kent.

### POTATO CULTURE.

I QUITE agree with "A YOUNG AMATEUR" (see page 463) on the culture of this useful vegetable. Last year I planted some Potatoes in November, some in January, and the main crop the first week in March; others I planted as late as the last week in April. The result was, those that were planted in March appeared first above ground, and were cut off by frost but soon recovered, and by the middle of September the tubers were quite ripe, yielding on an average two bushels and a half to the perch. Those which were planted in April grew at an extraordinary rate for a short time, and then drooped, being almost burnt up by the excessive heat. At the end of the summer when they ought to have been ripe they were making the second growth. On lifting them the first crop was spoilt, the second or sub-tubers being totally unfit for use, and the whole crop went to

ruin. November planting is too early on our soil on account of snails eating the sets, but on sandy soil I believe this to be the best time for planting, as the growth becomes well established before the heat of the summer sets in.

I intend next season to have my main crop in by the middle of January if the weather permits. I think it the best time for planting in this district. By planting thus early better tubers are not only produced, but they are more likely to keep after they are grown. I also think we should go back to seed more than we do. I believe if this plan was followed up we should not be troubled so much with disease as we have been of late years.—E. BROOK, Westbere, Canterbury.

### NOVELTIES IN THE ROYAL GARDENS, KEW.

PARROTIA PERSICA is one of the most ornamental and interesting of the plants trained on the walls. It is one of the rarest trees in cultivation, and the leaves in autumn assume the most brilliant tints of orange, yellow, and scarlet. This year, however, the leaves have varied from the rule, and are nearly all of the purest yellow. They are still attached to the tree, and likely to be so for some time. It is only when against a wall that the tree retains its beauty for so long, and though quite hardy it is worth having in this position on that account. In form and venation the leaves are something like those of the Beech, but much larger, being 3 or 4 inches long. Good plants are soon obtained by layering the lower branches, and this has hitherto been the method of propagation. Cuttings placed in heat a few weeks ago are likely to succeed. It belongs to the Hamamelidæ, and there is only one other species, *P. Jacquemontiana*, a native of the Kashmir Himalaya. The wood is very hard and durable, and in Persia it is known as the "Iron Tree." This species was figured in the "Botanical Magazine" of 1870.

In the Succulent house *Senecio macroglossus*, a very handsome new climber, is coming into bloom. All the year round its glossy Ivy-like leaves are highly ornamental, and during winter the golden-yellow flower heads, nearly 3 inches in diameter, are an additional attraction. It is one of the largest-flowered of a genus numbering nearly one thousand species. No plants are more suitable for room cultivation than succulents, and as this is the best of the extremely few climbers of that class it should find a special sphere of usefulness. It is so remarkably like Ivy as to have been mistaken for it. In the animal kingdom, as a rule, the object of mimicry is easily seen, as for instance when insects resemble leaves, or when butterflies that would otherwise be the prey of birds are so like those of objectionable flavour as to be safe from destruction; but among plants the mimicry, unless it be accidental, is not so easily accounted for. In the same house *Agave Noackii* is in flower. It has a distinct stem and branches at the time of flowering, so as to be quite unlike the most familiar of the genus. This plant has rather a slender main stem, which divides into two others at about a foot from the ground, and these, about 1½ foot long, support heavy Aloe-like heads, which are again branching, so that by-and-by a sort of shrub will be formed.

*Drimiopsis Kirkii* is a handsome evergreen bulb, introduced from Zanzibar by the Royal Gardens three or four years ago, and was until then quite unknown. It is cultivated in the stove, where it forms an attraction to every lover of plants from its *Lachenalia*-like leaves with dark green spots. Some bulbs, as *Lachenalia*, are said to produce bulbils on the leaves where severed from the plant; but certainly none so freely as this: every piece thrown down produces several. The flowers are pale blue, small, and inconspicuous. Near this is the graceful *Aralia Veitchii* var. *gracillima*, the leaflets of which are surprisingly narrow, having at the same time the wavy margin of the original. This is an extremely elegant plant, and so also is *A. elegantissima*, which is very distinct from its saw-toothed margins. The *Aralias* are a most ornamental class, having great variety of appearance, and several show in a striking manner the great differences that often may be found between young and old plants of the same kind. Some, indeed, might have different parts of the same plant made into distinct species. *A. leptophylla* is a case in point; young specimens may have the leaflets no more than the fourth of an inch wide, and of very tall plants they may be quite 4 inches, changing in colour from nearly black to green.

Among the Orchids *Liparis pendula* first takes our attention, not on account of colour, but from the numerous and graceful spikes of small green flowers, reminding one forcibly of *Den-*

*drochilum filiforme*. It is very easily cultivated and affords a pleasing variety. *Cirrhopetalum Medusæ* is very attractive from its curious white tassels formed by the pendulous sepals of about 4 inches in length. *Ischilus linearis* is a peculiar little Orchid, with diminutive bamboo-like stems and leaves, bearing at the extremities rosy-lilac flowers almost like those of a Heath. The favourite genus *Masdevallia* is scarcely ever out of flower, or without the curious and beautiful in bloom at the same time. *M. Daviesi* is just now the newest, and is remarkable for its fine yellow colour. It was named after Messrs. Veitch's collector, who found it near Cuzco in Peru. Others in flower are *M. Veitchii*, *M. ochthodes*, and *M. gibberosa*; the two latter are peculiar in structure but not ornamental.

The *Odontoglossums* are *O. bictoniense*; *O. constrictum*, a light form of *O. nebulosum*; and *O. Roezli*, which beautiful species is sometimes nearly white, but is scarcely then so fine from want of purity. For *Lycaste Skinneri* when introduced was predicted the future of the Tulip. *L. costata*, though of less merit, is worth growing; it has creamy white flowers of large size. Just above this is a basket of *Sophranitis grandiflora*, and others of *Restrepia antennifera*. Among the *Oncidiums* are *O. Krameri*, *O. Papilio*, *O. coccineum*, and *O. ornithorhynchum*. *Cypripedium Sedeni* is now the finest of the genus, and is one of the most valuable Orchids in flower. With it also are *C. biflorum*, a quantity of *C. insigne* and *C. Roezlii*, which may be considered a finely coloured variety of *C. longifolium*.

### WINDOW GARDENING.

In planting a window garden seek ornamental foliage for it rather than very many flowering plants. True, every blossom is precious in winter; hence the more Carnations, Primroses, and other flowers one can have the better. Still, the choice between a handsome plant having brilliant leafage, and an ugly-looking one having poor leaves but pretty blossoms, must be decidedly in favour of the former. A *Begonia Rex* is better than a *Petunia*. A *Dracæna terminalis*, a small Tree Fern, or a tricoloured *Geranium*, looks much finer in the window than a Rose bush, a *Daphne* or a Cactus, especially when these cannot be coaxed into blooming. It would be unfortunate not to have a few flowers enough for the crowning grace of the collection, but for the continuous quiet beauty of a window garden let broad-leaved ornamental foliage be the main reliance. Happily some plants have beautiful leaves and flowers also; thus far they are well adapted for parlour use. We can fill our window box, if we choose, with plants of finest, rarest foliage, and then add brilliant flowers, such as *Duc Van Thol* and other early Tulips, Hyacinths, and Crocuses. By cultivating these, each bulb in a separate pot, bringing them into bloom, and disposing them around among the plants, concealing the pot as far as possible, we shall secure all that is desirable in the way of beauty, colour or fragrance.

An *Amaryllis* that blooms for a month in midwinter may give much satisfaction. The flaming scarlet of its blossoms may be toned down with silver-leaved *Geranium* on one side, and *Crystal Palace Gem* on the other, while the delicate-coloured foliage of these plants will be heightened in effect by the contrast. Plants suitable for a single pot, bracket, or vase are found in great variety; all flower-growers know what they are—*Callas*, *Fuchsias*, *Caladiums*, &c. Well cared for, almost any plant looks well; neglected, the best of them becomes a nuisance. Even the *Sedum spectabile* makes a fine window plant by putting it in the cellar in autumn, repotting and bringing into the sun in January. It soon grows up from the stools, branches out, and spreads itself, while every leaf, of a rich cream colour, edged with green and slightly curled, is as handsome as a shell. Gardening is very much like house-keeping in this, more or less of the individual will be expressed therein. If one has good perceptions of colour, contrast, and harmony, and is deeply imbued with a love of her subject, she needs but little instruction from art critics to arrange her plants gracefully and her home with refinement.—(*New York Tribune*.)

### OUR BORDER FLOWERS—GESNERWORTS.

*RAMONDIA PYRENAICA*, or, as we used to call it, *Verbasum Myconi*, is one of those gems that need only to be seen to be appreciated. Strictly speaking it scarcely comes under our heading, for its proper place is on the rockery, or it is better still when grown in pots. It can be used for all purposes that

plants are adapted for, and is a telling plant in a collection of alpine for exhibition. We are indebted to the Pyrenees for this much-neglected and choice occupant of moist shady nooks. There is little difficulty in cultivating this plant. It may be increased by seed sown as soon as ripe in well-drained pots placed in a cold pit or frame and carefully watered, admitting fresh air on all favourable occasions. It is good practice to afford the plants a little protection in severe weather; they are increased by division also. They require thorough drainage under all circumstances. A compost of sandy loam and peat in equal quantities, with a sprinkling of charcoal dust, will meet their requirements. They cannot endure full sunshine, therefore partial shade should at all times be afforded them. When well cultivated these plants cannot fail to be admired.—*VERITAS*.

### SPECIMEN POMPON CHRYSANTHEMUMS.

In offering a few remarks on the culture of these plants I wish it to be understood that the production of really good specimens depends more on the care and enthusiasm of the cultivator than on any instructions he may receive. If this be borne in mind there may be less complaint that, after having received directions, so little has actually been learnt from them.

To produce good specimens, choose strong cuttings about the end of November, and insert them in sandy soil; water, and place the cutting-pots in a cold frame, and keep rather close for a month or so. They must be sprinkled occasionally and shaded from sunshine till rooted, after which give plenty of air at all times except when frosty. By no means endeavour to excite growth by artificial heat, for by inducing growth in the dark days premature flowering often happens with some of the early sorts. About the end of February the rooted plants may be potted-off into 3-inch pots, using a compost of loam and leaf soil, with enough silver sand to keep it porous. Replace in a cold frame, tilting the lights, or removing them altogether when the weather is mild. When the plants have attained the height of 6 inches stop them and repot into 6-inch pots, using a little more loam and less sand than before. When the side shoots are about 4 inches in length the shape of the plant must be determined on. If for a pyramid (as in the annexed illustration) one shoot must be allowed to grow erect and the others be tied out; but great care is necessary in handling, for the shoots of some varieties are apt to split and break off at the joint. If the plants are wanted for dwarf specimens all the shoots must be trained out laterally.

About the end of May shift the plants into their flowering pots, 8-inch pots being suitable. The compost must not be sifted, and should consist of three parts good holding loam and one part of well-decayed manure and leaf soil. I have also found a 6-inch potful of soot to every bushel of soil very beneficial. The drainage must also be efficient, not, however, placing too many crocks in the bottom of the pot, and using turfy loam to prevent the finer soil getting down amongst them. The plants should be potted rather firmly, leaving about half an inch of space on the surface of the soil for watering. When this is done, if the weather is not too cold, place the plants on a south border outdoors in the full sun on pieces of slate, or, which are better, inverted flower pots sunk into the ground, the superfluous water passing away more readily than from slate bases. The plants should be placed quite a yard apart from each other; 4 feet would be better, as that allows plenty of room to walk between and attend to them, and the pots should be earthed-up to prevent evaporation. A zinc-wire hoop from 18 inches to 2 feet in diameter should now be placed at the base of each plant, supporting the wire by two sticks crossing each other, and fastened to the pot. To this wire the shoots can be drawn down readily; and if the plants are intended for pyramids a stick 3 feet in height may be placed upright near the centre of the pot, for by the end of October many kinds will have reached that height and be filled out proportionately, one stick and a hoop being quite sufficient for pyramids, and a hoop alone for dwarf-trained plants, a quantity of sticks not being at all necessary for good training.

From this time till the plants have done flowering they should never want for water. No fixed rule can be laid down as to how often they should be watered, for much depends on the state of the weather; but when water is required give abundance, filling the pot up twice, for if the plants are once allowed to flag rapid loss of foliage is a sure consequence. From the end of July to the end of October clear weak liquid

manure water may be given three times a-week, for the Chrysanthemum is a voracious feeder. I have used the word "clear," and it is important, for if the manure water is used in a thick state the sediment forms a coating over the surface of the soil, excluding air and rendering the plant less vigorous. Sprinkling overhead on the afternoon of fine days just before the sun goes down induces rapid growth and keeps the plants healthy. From June onwards Chrysanthemums grow quickly, and if good bushes are required the plants must be looked over once a-week, and any shoots that are 4 or 5 inches long must be stopped, always pinching out the extreme point; and as they grow they must be trained, care being taken not to have the ties too tight, and carefully remove all suckers that arise from the root, as they rob the head.

A little judgment is necessary in training the plants, for if a pyramid be required a good leading shoot must be selected and stopped before growing too high. The best shoot from this stopping should again take the lead, the side branches being trained out regularly. As regards the time that the plants should be last stopped much depends upon the varieties that are grown, and whether it is required to have them all in perfection at about the same time; for many varieties, such as Bob and some of the Anemone-flowered sorts are much later than others, such as the Cedo Nulli. The end of June I have found to be quite late enough for stopping the late-flowering varieties, but the early sorts may be stopped till the third week in July. They may be stopped later and then bloom, but the quality of the flowers is not so good.

Towards the latter end of September the plants will show flower buds, and when these are large enough to handle all but the best on each shoot must be taken off, for one good bloom for exhibition is better than three or four small flowers. The plants should have their last tying about the second week in October, for if delayed till a week or so before they bloom they never look so well. Distribute the blooms equally all over the plant, which will not be much trouble if the training has been regularly attended to throughout the summer. The pots may now be lifted out of the plunging material, have plenty of room, and be placed in the full sun, for without well-ripened wood good flowers must not be expected; and on no account must the plants be allowed to be dry, using water at all times, if possible, that has been well exposed to the air. The sprinklings overhead may also be discontinued after the end

of September, for with dewy nights and less solar heat too much moisture about the foliage encourages mildew, a good preventive of which is a dusting of sulphur or soot, but the latter I prefer.

The plants should be taken into a well-aired light greenhouse on the approach of frost, and be dewed overhead with a syringe every morning till the flowers show colour, and with a few sunny days and a little fire heat on frosty nights to keep the house comfortable they will be in good condition by the first and second week in November.

The following varieties I have found

make very good specimens, but there are many others more or less suitable:—Bob, Mdle. Marthe (two of the best), Astræa, St. Michael, Antonius, St. Thais, White Trevenna, Rose Trevenna; White, Lilac, and Golden Cedo Nulli; Rose Marguerite, Golden Circle, Calliope, Hélène, Madame Montels, Marie Stuart, Mr. Astie, La Sultana, Adonis, Aigle d'Or, Rose d'Amour, Brilliant, and Mrs. Hutt.

Standard Pompons are very ornamental, and may be produced by taking a strong-rooted sucker 6 inches in height of any of the tall-growing kinds. These should be potted in 6-inch pots as soon as the plants have done flowering, placing in a warm greenhouse, tying upright as they grow, and when of the desired height stop them. After they have pushed fresh growth freely pot them into their flowering pots and place outdoors with the others. A hoop may be placed to form the head by driving three stakes in the pot in a triangular manner, and to these fasten each hoop with wire. When the plants are housed the three supports may be cut away, leaving the hoop attached to the head of the plant with only a stout stake in the centre for support.—A. HARDING.

[The engraving is from a photograph of

a plant of Mdle. Marthe exhibited by Mr. Harding at the Brixton Show. The plant was 3½ feet in height and 2½ feet in diameter at the base, and was skilfully trained and cultivated.—EDS.]



Fig. 74.—POMPON CHRYSANTHEMUM (from a photograph).

## EARLY WRITERS ON ENGLISH GARDENING.

No. 23.

JOHN RAY.

I FOUND the last of John Ray's known collateral relatives an old woman at the "Ship" inn, at the Hythe, Maldon, Essex, and the memory of her celebrated ancestor was retained by her,

for she had his portrait, taken from Derham's biography of him, framed, and hanging on the wall by her side.

It is not generally known that his father, a blacksmith at Black Notley, spelt his name "Wray," and that his celebrated son dropped the W. The name has been derived from the French *vrai*, true, and one branch of the family have the canting motto, *Juste et vrai*, Just and true.

Many years ago I wrote and published the following in your columns:—If a pilgrim loving to visit the places where the good and the great have dwelt and rest from their labours, will convey himself to the good old Essex town of Braintree, and, staff in hand, will turn down by the east end of its stately church—a structure that will live in all legal memories for ever in connection with its 'Church Rate Case,' and will pass on for some two miles along the road that leads to Witham, he will arrive at a little white church, plain and unattractive, with cottages appropriately nestling near it, and among them that of the village blacksmith. His forge, with the exception of the broad brick chimney, wears but a modern and no markedly thriving aspect; but that chimney must have vibrated with the echoes of the hammer's measured blows two centuries since; and who then stood by its side, and submitted the iron to their blows? No other than the father of the most excellent botanist that England numbers among its natives—even the father of the English Linnaeus, John Ray. In the cottage attached to that smithy was this admirable man born on the 29th of November, 1627; by the side of that smithy chimney was his childhood passed. But he was no common boy; and the squire of the parish—a Mr. Wyvill, if we remember correctly—hearing of his rapid progress as a scholar at Braintree school, aided to sustain him at Catherine Hall, Cambridge, and subsequently at Trinity College in the same University, whither he removed, 'because in Catherine Hall they chiefly addicted themselves to disputations, while in Trinity the politer arts and sciences were principally cultivated.' In 1649 he was, at the same time as Isaac Barrow, elected a Fellow of his college; and the learned Dr. Dupont, famous for his skill in Greek, used to say that of all his pupils none were comparable to these two. That he was not deceived in his estimate of Ray is evidenced by the fact that, before he was twenty-seven, in 1655, he had been successively elected Greek lecturer, mathematical lecturer, and humanity reader of his college. He was also tutor to many gentlemen of high standing, but with none did he acquire so close a friendship as with Francis Willughby, and with whom in after years he was intimately associated in scientific researches. Ray was always fond of natural history, but he especially became attached to botany from one of those providences we are so prone to characterise as accidents, which, though apparently evils, are in reality the seed time of a future rich harvest of good. A violent illness—probably the result of intense sedentary study—rendered necessary the remedy of much outdoor exercise; and as Ray was not of that class who can endure mere mechanical exertion without an accompanying object of mental improvement, he devoted his walks to the collection and examination of wild plants—researches which he continued for ten years, and which gave birth, in 1660, to his "Catalogue of Plants produced in the Neighbourhood of Cambridge." In its preface he describes the difficulties he had to overcome in the prosecution of his botanical studies, especially the absence of a guide in the determination of species; yet he surmounted all difficulties, and succeeded in describing alphabetically 626. Many notes, abounding with original observations on plants and insects,

are dispersed throughout the volume, all evincing signs of that excellence and celebrity to which he afterwards attained. At the Restoration of Charles II., 1660, Ray was ordained a clergyman of the Church of England; but he never held any preferment, nor performed regularly parochial duty; and two years afterwards he was obliged to resign even his Fellowship, whereby his entire living was taken from him, because his conscience would not permit him to subscribe the Act of Uniformity. Yet there was no fanaticism, but the purest tolerant spirit within him; and how fitted he was to adorn his profession may be appreciated from that excellent little volume by which he is most popularly known, "The Wisdom of God Manifested in the Works of the Creation."

The following are details of his career: He was chosen minor Fellow of Trinity in 1649; in 1651 was made Greek lecturer of the College; in 1653 mathematical lecturer; and in 1655 humanity reader. He afterwards passed through the offices of the College, and became tutor to many gentlemen of honourable birth and attainments, who gave him due praise and acknowledgments for his watchful care of them.

At the period when Mr. Ray turned his attention to the study of nature, the knowledge of plants was not highly superior to the state in which Turner had found it in the same place more than a century before. In this study Ray could find no master. We are not able to say that a single publication of a scientific nature on the subject of plants had ever appeared at Cambridge, for Maplet's "Green Forest" will scarcely be thought worthy of that appellation. Oxford had, indeed, not only experienced the benefit of private encouragement, but of public munificence, in the establishment of a garden. But at the sister University Mr. Ray stood alone, himself indeed a host! Self-taught as he was, and full of ardour, he so forcibly displayed the utility of botanical knowledge, and its intimate connection with the arts and conveniences of life, independent even of those charms which the views of nature ever afford to contemplative minds, that he soon made it an object of attention, and numbered among his associates in these studies Mr. Nid, a senior Fellow of his own College, Mr. Francis Willughby, and Mr. Peter Courthorpe.

Among the variety of notes in his catalogue of Cambridge plants, Mr. Ray informs us that the people of Norwich had long excelled in the culture and production of fine flowers, and that in those days the florists held their annual feasts, and crowned the best flower with a premium, as at present.

The desire Mr. Ray had to extend his knowledge of English botany had induced him in the autumn of 1658 to take a journey, which he performed alone, through the midland counties of England and the northern part of Wales, in search of plants. This tour held him from August 9th to September 18th. Of this and of two other tours Mr. Ray preserved some short memorandums, in which he has noticed his daily progress, some remarkable facts that occurred, some observations on the antiquities that he met with, and some of the rare plants. Dr. Scott has published these itineraries with his life.

We read with interest in his itineraries the records of his first finding various plants, some in the gardens he visited, and others growing wild. As examples we note *Lupinus luteus odoratus*, Yellow Lupine, which, long before, Gerard describes as having "floures of an exceeding faire gold yellow colour, sweet of smell. They grow in my garden, and in other men's gardens about London." He also notes as new to him *Vaccinium rubra*, now called *Vaccinium Vitis-idaea*, commonly



Fig. 75.—JOHN RAY.



called the Red Bilberry, Whortleberry, and Cowberry. He visited the garden of Dr. Johnson at Pontefract, and records that he never before saw *Solidago Sarracenica*, *Scrophularia Tradescanti*, and some others. Crossing into Scotland Ray notices in the garden of Mr. Stuart at Stirling "divers exotic plants, more than one would hope to find in so northerly and cold a country." Some Ray had not before seen. One sentence appears to record the first finding in Wales of the Maiden-hair Fern, for at St. David's Head he says he found "the plant I call *Polypodium marinum* growing on many of the rocks by the seaside, which it is likely the herbarists may call *Filix marina* or *Adiantum*." Ramsey Island, he observes, was so called from the Ramsons (*Allium ursinum*) plentifully growing there. The names of the plants not natives of England which he published in his "Travels through the Low Countries" are only alphabetically arranged, with brief descriptions and the places where he observed them. The particulars are in Latin, and a translation of one will show the character of the work. "*Papaver corniculatum* (Horned Poppy) with crimson flower. In Attica, in the neighbourhood of Hymettus." This is from his "*Stirpium orientalium rariorum Catalogus*."

In his subsequent journeys he was commonly accompanied by some friends of a congenial taste; thus, in his second tour in the autumn of 1661 Mr. Willughby and some other gentlemen travelled with Mr. Ray into Scotland through the counties of Durham and Northumberland to Edinburgh, Glasgow, and back through Cumberland and Westmorland. This journey held six weeks, from July 26th to August 30th. In 1662 Mr. Ray, accompanied by Mr. Willughby, took his third and most extensive English tour through the middle counties of England into Cheshire, thence into North Wales, and through the middle Welsh counties into Pembrokeshire, coasting the southern part to Bath and Bristol, thence to the Land's End through Somerset and Devon, returning through Dorsetshire, Wiltshire, and Hampshire. They were absent in this excursion from May 8th to July 18th, and Mr. Ray gathered a plentiful harvest, which afterwards enabled him to enrich his general "Catalogue of English Plants," then in meditation. Nor did he omit to avail himself of every opportunity, particularly at Tenby in Wales, and in Cornwall, of describing such birds and fishes as were less frequent in other parts, preparatory to his intended publications in zoology.

In 1663 he published an appendix to the "Cambridge Catalogue," containing emendations and the addition of forty-two plants; and in 1685 came out another appendix, with the addition of sixty more not noticed before, which were principally communicated by Mr. Dent of Cambridge.

Being now at liberty from the constraints and business of a college life, he was led to accompany Mr. Willughby, Mr. Skippon, and Mr. Nathaniel Bacon, two of them his pupils, to the Continent. Mr. Ray was absent from April 18th, 1663, to March 1665-6, during which time they visited France, Holland, Germany, Switzerland, Italy, and extended their journey to Sicily and to Malta.

On his return from the Continent he spent the summer of 1666 between his friends in Essex and Sussex, and in reading the publications which had appeared in England during the three years of his absence. The winter passed in reviewing and arranging the museum of his friend and pupil, Mr. Willughby, rich in animal and fossil productions, in arranging his own catalogues for his general list of English vegetables, and in framing the tables for Dr. Wilkins's "Real or Universal Character."

In the summer of 1667 Mr. Ray, accompanied by his much-honoured friend Mr. Willughby, made his fourth excursion into the distant counties. They left Middleton Park on June 25th, and took their route to the Land's End through the counties of Worcester, Gloucester, and Somerset, and returned through Hants to London on September 13th.

On November 7th of this year he was chosen Fellow of the Royal Society, and was prevailed on by Bishop Wilkins to translate his "Real Character" into Latin. This he performed, though it was never published, and the manuscript is extant in the library of the Royal Society. The latter end of the year and the beginning of 1668 he spent with gentlemen who had all been his pupils at Trinity: Mr. Burrell and Mr. Courthorpe at Danny, in Sussex; Sir Robert Barnham at Bocton, in Kent; and with Mr. Willughby, in Warwickshire. In the autumn of this year he took his fifth journey alone into Yorkshire and Westmorland, returning in September to Middleton Hall, and spent the winter with Mr. Willughby, then lately married.

About this time Dr. Tonge, Dr. Beal, and some other philosophical gentlemen in England, were busied in experiments relating to the motion of the sap in trees. Among these also in the spring of 1669 Mr. Ray and Mr. Willughby entered upon a set of the like experiments, and induced Mr. (afterwards Dr.) Lister to prosecute the same. These experiments were made on the Birch, the Sycamore or Greater Maple, the Alder, the Ash, the Hazel, Chestnut, Walnut, and Willow, of which the two first were found to be the best adapted to the purpose from their bleeding most freely.

In 1671 Mr. Ray wrote a paper, printed in the "Philosophical Transactions," No. 74, on the subject of spontaneous generation, a point of philosophy which had been much discussed, and to which some among the learned were yet attached. It appears from this paper that he very early rejected this doctrine, and was confirmed in his opinion by the experiments of Redi. In this year he drew up his "Catalogue," and dedicated it to his friend and Mæcenas Mr. Willughby under the following title, "*Catalogus Plantarum Angliæ et insularum adjacentium tum indigenarum tum in agris passim cultas complectens*."

In this year he informs Dr. Lister that he had what he thought a most liberal offer of £100 a-year and all his expenses defrayed to accompany three young gentlemen abroad. But he declined it, although he much wished to have taken a review of the alpine plants. Indisposition had some share in this refusal, and we find that in the next spring, 1671, he suffered much from a jaundice. He was so far recovered, however, before July as to be able to set forth on his sixth journey, in which he took with him Thomas Willisel, an unlettered man, but one whose love for plants, and his zeal and assiduity in collecting them, merits commemoration. They travelled through Derbyshire, Yorkshire, and all the northern counties, as far as to Berwick, and back through the bishopric of Durham.

In the same year died, to the unspeakable loss and grief of Mr. Ray, his most valuable friend Francis Willughby, Esq., on July 3rd, in the thirty-seventh year of his age. The strictest intimacy had subsisted between them from the time of their being fellow collegians, and it was cemented by a congeniality of taste, which not unfrequently forms a stronger bond of union than the ties of blood.

For the use of his pupils (Mr. Willughby's two sons) Mr. Ray drew up in 1672 his "Nomenclator Classicus," induced thereto by observing the multitude of errors in the names of plants and animals in the manuals of daily use.

On November 19th, 1672, he sustained in the death of Bishop Wilkins the loss of another of his best friends, and it is not unreasonable to conjecture that these privations added strength to his motives for domestic retirement, and accelerated at least that connection he made the next year, when he married Margaret, the daughter of Mr. John Oakely of Llannton in Oxfordshire. They were married in the church of Middleton on June 5th, 1673.

In the same year Mr. Ray gave to the public the fruit of his foreign travels under the title of "Observations Topographical, Moral, and Physiological, made in a Journey through part of the Low Countries, Germany, Italy, and France." To the end of these "Observations" is affixed an alphabetical list of the plants mentioned in the body of the book, under the title of "*Catalogus Stirpium in exteris regionibus, a nobis observatarum, quæ vel omnino vel parce admodum in Anglia sponte proveniunt*."

Mr. Ray continued after his marriage to reside at Middleton Hall, where his engagements at this period of his life were such as called forth all the talents of his literary abilities and demanded all his care as a faithful guardian. He was employed in a double duty, that of his trust to the sons of his late estimable friend and of editor to the remains of their father, "On the History of Birds and Fishes." Mr. Ray translated this work into English, and published it with large additions in 1678, with figures engraved at the expense of Mrs. Willughby.

Mr. Ray in the year 1674 was induced to engage, at the request of the Royal Society, with other distant members, to furnish observations on the subjects of natural history, to be read at their meetings; the Society, notwithstanding the extreme diligence of the Secretary and some few others, being at this juncture rather in a languishing state.

On this occasion he wrote several papers, of which some were afterwards printed in the "Philosophical Transactions." Among those which were not published, as we find by his letters, were the following: "On the Acid of Ants;" "On a

Fossil of the Figured Kind, found in Malta, and known by the name of St. Paul's Bastoons Letters, page 120;" "On the Trochites," "On Mushrooms," "On the Darting of Spiders," "On the Seeds of Plants," and "On the Specific Differences of Plants."

On the death of the mother of his friend, the Dowager Lady Willughby, and the removal of his sons from under Mr. Ray's tuition, he retired some time in the year 1676 to Sutton Coldfield, about four miles distant from Middleton Hall, where he remained till Michaelmas 1677. He then made a second removal to Falkborne Hall, near Black Notley, at which last place he built a house, and finally settled June 24th, 1679.

Mr. Willughby's "Iethology" remaining yet unpublished, Mr. Ray in 1684 arranged the materials, which had been left in a very imperfect and undigested state. He wrote the two first books himself, revised, methodised, and enlarged the whole, and sent it to the Royal Society, the members of which contributed to furnish the plates, and by the assistance of Bishop Fell it was printed at Oxford, the Royal Society being at the whole expense. It came out under the following title: "Francisci Willughbei, Armig. de Historia Piscium, Libri quatuor, jussu et sumptu S. Ray. Lond. editi. Totum opus recognovit, coaptavit, supplevit, librum etiam primum et secundum integros adjecit J. Raius." Oxon. 1686.

Preparatory to his great work, which he intended to arrange systematically, he put forth in 1682 his "Methodus Plantarum," enlarged and improved from the synoptical tables which he had printed in Bishop Wilkins's "Real Character" in 1668. It bears the following title: "Methodus Plantarum nova brevitas et perspicuitatis causa synoptice in tabulis exhibita."

Mr. Ray informs us that it was at the persuasion of his friend Mr. Willughby that he began to collect materials with a view to a general history of plants; but that after the loss of his friend in 1672 he relaxed, and on hearing that Dr. Morrison was employed on a similar design, from which considerable expectations were formed, at length gave up his purpose. On the decease of Dr. Morrison in 1683, who left the much greater part of his work unfinished, by the persuasion of his friends, and particularly of Mr. Hutton, to whom it was dedicated, he resumed his design, and prosecuted the work with vigour. The first volume was published in the year 1686 under the following title: "Historia Plantarum Generalis: species hactenus editas aliasque insuper multas noviter inventas et descriptas complectens."

After the first edition of the "Catalogus Plantarum Angliæ" was out of print Mr. Ray had been exhorted by his friend Mr. Ralph Johnson to arrange the second according to system; but not having sufficiently elaborated his method at that time he declined it, and it came out in 1677 in the alphabetical order. A third edition being wanted, however, after the publication of the "History of Plants," he meditated throwing it into the systematic form, and in the meantime put forth, in 1688, "Fasciculus Stirpium Britannicarum, post editum Plantarum Angliæ Catalogum observatarum." Lond. 8°. By this little volume a considerable accession was made to English botany; several very rare mountainous or alpine plants from Wales, some scarce ones from Cornwall, sea plants, new Fungi, Mosses, and Grasses made their first appearance in this little catalogue. The "Synopsis," although finished for the press soon after this "Fasciculus," was not published, owing to the delay of the printer, till 1690, when it appeared under this title, "Synopsis methodica Stirpium Britannicarum."

To this period Mr. Ray had appeared to the public principally as a naturalist, but he now united to this character that of theologist. It is needless to say that he succeeded in this department, perhaps beyond most of those who had before written on the same subject. His first publication of this kind we are told was originally and in its outlines college exercises only, or commonplaces. These he now wrought up and enlarged into a convenient volume, and trusted it to the care of his friend, Dr. Tancred Robinson, who procured five hundred copies to be printed under the following title: "The Wisdom of God Manifested in the Works of the Creation." 8°. 1691.

The favourable acceptance the public gave to the "Demonstration" encouraged Mr. Ray to publish the next year his "Three Physico-theological Discourses concerning the Primitive Chaos and Creation of the World," "The General Deluge, its Causes and Effects," "The Dissolution of the World and Future Conflagration."

In this year Mr. Ray wrote some "Observations on the

Planting of Maize instead of Pease," occasioned by a proposal of Sir Richard Bulkley, in which he says that he had found the greatest yield of Pease to be twenty barrels reaped for one sown; whereas, from one grain of Indian Wheat he had calculated the produce would be upwards of two thousand grains for one. These observations were printed in the "Phil. Trans.," No. 209. In 1693 he published his "Synopsis methodica animalium, quadrupedum, et Serpentina generis."

In the same year, 1693, Mr. Ray became the editor of a translation of "Dr. Rauwolf's Travels." This physician, who was the next after Belon whom the love of natural history alone led to travel into the east, spent the years 1573-4-5 in traversing Syria, Mesopotamia, Palestine, and Egypt, induced as he tells us by his desire to behold in the native places the plants of the Greek and Arabian physicians.

The "Catalogus Stirpium in exteris Regionibus observatarum" being out of print, Mr. Ray was induced to give a new edition of it, with such large augmentations as to make it a new work. This is his "Stirpium Europæarum extra Britannias nascentium Sylloge." About this time Mr. Ray communicated "The Provincial Catalogues of Plants," printed at the end of each county in the edition of "Cambden's Britannia," published in 1695 by Mr. Gibson. This second edition of the "Synopsis" was printed in 1696. 8°. p. 346. Mr. Ray himself had but a small share in the augmentations that were made to this edition. His advancing years and infirmities prevented him from making excursions. His principal auxiliaries are mentioned in the preface, in which, additional to the names in the former "Synopsis," we meet with those of Mr. Edward Lihwyd, Walter Moyle, Esq., and Mr. William Vernon, Fellow of St. Peter's College, Cambridge. With this edition of the "Synopsis" was published the "Dissertatio de variis Plantarum Methodis brevis," in which Mr. Ray shows that the separation of plants into classes and genera from the fructification alone must be a very gradual and progressive affair.

In 1697 he wrote "Some Observations on the Poisonous Effects of a Root Eaten instead of Parsnips," supposed to have been that of the Hemlock, but of which Mr. Ray had some doubt, alleging that it was more probably the *Cicuta vulgaris* (*Chærophyllum sylvestre*, Linn.). See "Phil. Trans.," No. 231. In No. 238 he communicated "Remarks on the Poisonous Effects of the *Enanthe crocata*," too fatally confirmed by later mistakes of the same kind.

In the year 1700 Mr. Ray published "A Persuasive to a Holy Life, from the Happiness which attends it both in this World and in the World to Come." Lond. 8°.

So small, however, was the demand for books in botanical science that the London booksellers were unwilling to risk the printing them, and finally printed at Amsterdam under the care of Dr. Hutton, the botanical professor at Leyden, who supervised the press and procured 1100 copies to be thrown off, appeared under the title of "Methodus Plantarum emendata et aucta: accedit Methodus Graminum, Juncorum, et Cyperorum specialis." 8°. p. 202. 1703. Dr. Hutton gave a further sanction to the system of his friend; he taught it in his lectures to the pupils of that University, and informed Mr. Ray of the good acceptance it met with on the Continent, particularly in Italy. The last of his works published in his lifetime came out in 1704 with the following title: "Historia Plantarum Tomus tertius, qui est Supplementum duorum præcedentium."

Mr. Ray's infirmities and afflictions, painful and grievous as they were, did not prevent him from prosecuting his studies till within about three months before his death, which event took place on January 17th, 1704-5. He died at Black Notley, and was buried, as Dr. Derham says, according to his own desire in the church of that parish; although the rector of the parish offered him a place of interment in the chancel of the church, yet he modestly refused it, choosing rather to be buried in the churchyard with his ancestors, where a monument was erected to him at the charge of some of his friends, with a Latin inscription.

He had four daughters, three of whom survived him. He left a small legacy to the poor of his own parish, and £5 to Trinity College in Cambridge, to purchase books for the library there. All his collections of natural curiosities he bestowed on his friend and neighbour Mr. Samuel Dale, author of the "Pharmacology," to whom they were delivered about a week before his death.

Mr. Ray's posthumous papers were entrusted by his widow to the care of Dr. Derham, who, after publishing the "Historia Insectorum," selected a number of his letters and printed

them in 1718 under the title of "Philosophical Letters between the learned Mr. Ray and several of his Correspondents, natives and foreigners."

### CUCUMBER CULTURE.

Your correspondent, "J. P.," has on page 472 named five varieties of Cucumbers which have done well with him, but I wish to add a few more to the list and a few cultural remarks. On the 8th of January I sowed the seeds in a bell-glass, using three parts of leaf soil and one part of turfy loam, and placed the glass on the hot-water pipes. The seed soon germinated, and the third day afterwards I potted the plants into 60-sized pots, using leaf soil and turfy loam in equal parts. As soon as the plants were well established they were planted in pure turfy loam. I do not use manure in the soil, for I have proved that planting in rich soil causes excrescences to form on the roots, which are almost certain death to the plants. I use liquid manure two or three times a-week in a warm state when the plants are growing. I began cutting fruit on the 18th of March, and continued until the 28th of October, when the old plants were removed.

The first variety I wish to mention is Sutton's Duke of Connaught. It is very handsome and level fruit, growing from 20 to 25 inches in length, and of excellent flavour. Hamilton's British Volunteer is remarkably productive; it is very tender and good, and grows from 25 to 30 inches in length. Hamilton's Needle Gun is perfectly smooth and straight, and grows from 20 to 28 inches in length, but is rather shy in fruiting. Hamilton's Goliath is very large; it grows from 25 to 30 inches in length, and for a long variety is remarkably free in fruiting. Blue Gown is an excellent variety; it grows from 20 to 26 inches long, regular in shape, and good in flavour. Daniels' Duke of Edinburgh is a fine variety; it is a free-bearer, and grows from 20 to 26 inches in length, it is quite tender, and of superior flavour. The above I consider good exhibition varieties, as well as being serviceable for table use; but as producing fruit fit for cutting freely for everyday use I can recommend Sutton's Berkshire Champion. It is a good variety for frame cultivation, being very prolific and of superior quality. The fruit grows about 20 inches in length. Kirklees Hall Defiance is suitable for either frame or house cultivation; it is prolific, tender, and grows about 20 inches in length. Improved Market Favourite is a most excellent variety for frame cultivation, being a free-bearer, the fruit growing from 15 to 18 inches in length. Sion House Improved is one of the best for winter work; it is a heavy cropper, the fruit growing about 16 inches in length, straight, and of the first quality. The varieties named have done well with me, and I can recommend them as worthy of general cultivation.—G. S., *Faulkners House Gardens.*

### EFFECTS OF ARCTIC TEMPERATURES.

I WILL premise by saying that as I once upon a time spent four summers and two winters in the "Plover," Captain Moore, in search of the "Terror" and "Erebus," under Sir John Franklin, I consider myself entitled to form an opinion about what I am going to state.

Any newspaper account I have seen merely says that Dr. Kane left some Wheat for experimental purposes, but none of them tell under what conditions it was left. If it was left buried in the ground it would never be exposed to a lower temperature than 28°, however cold the atmosphere might be; and if even it was merely laid on the surface of the ground, it is extremely improbable that it would fare much worse, as the snow would fall and cover it before any very severe frost could reach it. During my stay in the Arctic regions we had the thermometer down to 50° below zero in the open air; but a registering thermometer which we buried under about 2 feet of snow on the floe alongside, and left undisturbed the whole winter, never fell below 28°, or the freezing-point of salt water—so that unless the Wheat was exposed in some manner so that it could not be buried by either earth or snow, we could expose it to a much lower temperature here at home. So much for that experiment.

I would like to see some specimens of the Arctic flora brought to this country, to find out how they would weather our winters, as in their proper habitat they are always covered with snow, and here they would very often have to encounter severe cold without any such protection. In the North vegetation is so very rapid immediately after the disappearance of the snow, that one is apt to believe that some of the flowers actually ex-

pand underneath it. In Grantly Harbour I have gathered plenty of Onions about a foot long, which had half of that length covered with snow, and were in full flower by the time it was all gone; and about Cape Barrow, Icy Cape, and Wainwright Inlet, the vegetation hardly ever seems to be checked, as the dwarf Alders and Willows, which are the only substitutes for trees thereabouts, are covered with fine plump buds under the snow in the months of January and February. Any ptarmigan (*Tetrax lagopus*) which we got during the winter appeared to live on these buds, as their crops were always filled with them. The Esquimaux, taking advantage of this predilection of the birds, snare them in great quantities by uncovering the bushes and affixing snares to them.

The great length of the summer days in those hyperborean regions serves in a great measure, in my opinion, to counteract the want of sun heat in ripening the numerous berries which abound there, otherwise the short summer would not suffice to get ready food for the various birds and beasts which visit the country.

If I happen to have any doubt about the effect of the climate on Wheat, I have none as to its effect on flour. Captain Beechy, in the ship "Blossom," buried an iron-bound cask of flour on Chamisso Island in the year 1825: in 1849 I was present when it was dug up by the crew of the "Herald," Captain Kellet; and, with the exception of a cake about three-fourths of an inch thick next to the wood, the rest of the flour when cooked was as good and palatable as if it had just come from the mill.—UNCLE ANDREW (in *The Gardener*).

### LIMATODES ROSEA.

I WAS interested in reading the article by Mr. G. Abbey in last week's number on winter-flowering plants, and was pleased to find that amongst Orchids *Limatodes rosea* is placed amongst those that are easily grown. I do not find it so; and Mr. Denning, Lord Loudesborough's gardener, who seems to grow and flower Orchids that puzzle everybody else, told me in conversation only last Wednesday week, that though nothing could surpass the beautiful soft rose of its flowers, it was a very difficult Orchid to grow and flower. I would thank Mr. Abbey very much if he would kindly say how he treats his plants as to temperature, compost, watering, resting period, &c.—J. DOUGLAS.

### PEAR SCALE.

IN the winter of 1870 I tried paraffin oil as a cure for Pear scale. I had a Muirfowl Egg tree very severely attacked by it. Seeing that paraffin oil was stated to be a complete cure for the pest I resolved to give it a trial, so I loosened all the branches from the wall and applied the oil with a painter's brush. The result was a perfect cure so far as scale was concerned, but the tree, an extra healthy one, was killed. I also know of another gardener who made the experiment with the same result. My motive for writing this is to warn others to be careful in using paraffin in the manner described. But I may state that I have used it with beneficial effects as a wash for fruit trees (in winter) in the following manner:—

To one gallon of water was added one gill of paraffin, working the whole well up with the syringe until it frothed like soap-suds, and with this I gave the trees a good syringing.—JAMES DICKSON.

### PLANTS AT THE CLOSE OF THE YEAR.

EVEN in winter we have a few lingerers left to cheer us in the season's gloom. Our beds and borders have lost some of their gaiety, but we have a few old friends left, and others are on the way. Plumbago capense is a capital plant for late autumn. *Zauschneria californica* we prize as a late autumn-blooming plant. Some of the Michaelmas Daisies still afford us sprays for bouquets and other decorative purposes, one of the best of the tribe is *Aster elegans*; *A. dumosus* is also a useful plant at this season. *Chrysanthemums* in sheltered places do us good service. *Viola odorata* in the open border has given us a supply of blooms for weeks past, and will do so for weeks to come; no doubt the hot dry summer has had much to do with the flowering now. Pansies sown in the spring are strong and coming into bloom, showing us their cheerful faces. *Viola Perfection*, *Lothair* and *Lutea grandiflora* are among our best and are very effective. *Lupinus nanus* still keeps on flowering. *Saponaria calabrica*, *Alyssum maritimum*, *Salvia argentea* and *Phlox verna* are cheerful still. Spring-sown

Snapdragons flower late in the autumn and are useful for cutting. Dandelions and Daisies are peeping up here and there. *Lamium album*, *L. maculatum*, *Geranium Andrewsii*, *Feverfew*, *Linaria Cymbalaria*, *Silene compacta*, the old Monthly China and other hardy Perpetual Roses, not forgetting Gloire de Dijon; Primroses, Polyanthus, Alyssums, *Arabis alba*, *Farsesia purpurea*, *Veronica Blue Gem*, *Leptosiphon roseus*, *Senecio vulgaris*, *Capsella Bursa-pastoris* bring up the rear of November's flowers.—OBSERVER.

### PAINTING FRUIT TREES.

JUDGING from the way that painting fruit trees is recommended and practised this operation must in many instances be considered as forming an essential part of the gardener's practice. It is generally under glass that painting is most generally prosecuted, Vines, Peaches, and Figs coming in for a very large share of it. Some of the ingredients used in painting might no doubt be very injurious to insects at the time of application, but the paint soon loses its strength, and before the trees are in leaf insects have nothing to contend against so far as the painting is concerned.

Too much dependence is often placed on painting. I have known instances where trees badly infested with insects received no further attention to eradicate them than being painted over, and when growth begun the insects were as plentiful as ever. To make paint effectual it should reach every corner and part, and not the upper surface of loose bark only, as is too often the case; but when the loose bark is cleared off and the inner bark well washed with soft soap and water it is quite impossible that any insect or any of their belongings can be left or find a place, and when they are thus removed there is no necessity whatever for painting. I have not painted a tree with the intention of killing insects for some years past, and insects have been much fewer than when I painted. The labour saved in not painting is considerable; and in the place of dirt everything is clean throughout the whole season. I found when the paint was put on thickly that it cracked in the summer time, and the crevices formed an excellent harbour for vermin.

I should like some of those who have been in the habit of painting their trees to discontinue it this winter, and wash thoroughly, leaving every part perfectly clean; when, after a season's experience, I am certain they would never be at the trouble of painting another tree.—A FRUIT-GROWER.

### SOME OF OUR NATIVE DECIDUOUS TREES.

As the merits of flowering shrubs of the deciduous class have been alluded to by a correspondent, would it not be worth while going a little further than he has done? Without decrying the claims of the many popular shrubs which he has named, I desire to put in a claim for some of the most common of our indigenous shrubs and trees, which often occupy the most unfrequented nooks and corners of our woods and coppices, and yet in themselves afford a display of beauty not always found in those that hail from a far-distant country. For instance, what can be more beautiful than the golden inflorescence of some of the Willows, which in some coppices give a tint of bright colouring seen quite a mile or more away, and at a time of year when flowers are always acceptable? In damp places the Willow very often overtops its neighbours, and its appearance is the more conspicuous. Some of the species are truly beautiful; I believe the male plant of one of the species is thought to be the most handsome, and the female of some of the others; the first-named not being very plentiful, but the latter very common. Perhaps someone will explain this. These Palms, as they are locally termed in most country districts, have in themselves a sort of poetic feeling attached to them, apart from their intrinsic worth as objects of beauty.

Following these we have others with flowers scarcely less showy—the Bird Cherry, or Hackberry of some districts, has a flower not much inferior to the imported *Deutzia*. And where is it possible to find any growth that will exceed that of the Elm when it is fairly out with its clustered flakes of inflorescence loading every particle of its numerous twig ends early in May? I have seen them used with advantage in an arrangement for dinner-table decoration.

Some other trees are also beautiful in their way. The wild Crab is not inferior to the cultivated Apple; while it is need-

less to point to the beauties of the May; poetic writers of all ages have never ceased breathing its praises; and many other of our most common trees give us forms of beauty peculiarly their own. The clusters of Ash keys exceed in beauty that of many an exotic plant for which high prices are paid; and the wild Briar is scarcely inferior to the Rose when it is seen struggling through a hedge or mass of undergrowth wood of any kind, neither is a solitary plant of it to be despised when hanging over a dry bank or other suitable place. There are many others of the common trees deserving notice. Even sprays of the common Beech look exceedingly well when in fruit, and the wonder is why what I may term the floral beauty of common trees has not been noticed before.—J. ROBSON.

### NOTES AND GLEANINGS.

THE donations promised towards the NATIONAL ROSE SOCIETY are as follows:—The Rev. Canon Hole, £5; Rev. C. H. Bulmer, £1; John Cranston, £5; Messrs. Cutbush & Sons, £2 2s.; Messrs. Paul & Son, £10; Captain Christy, £5; Herbert J. Adams, £5; John Mayo, £5; R. S. N. Baker, £5; the Rev. J. B. M. Camm, £5; E. C. Roberts, £1 1s.; H. C. Mayor, £2 2s.; W. E. Ball, £1 1s.; James McIntosh, £5; T. Francis Rivers, £5; Lewis A. Killick, £1 1s.; J. Mann, £1 1s.; B. R. Cant, £5; Edward Mawley, £1 1s.; Geo. P. Hawtry, £2 2s.; John Laing, £1 1s.; Charles Turner, £5; Herbert Bensted, £5; William Paul, £5; J. L. Curtis, £3 3s.; Maurice Young, £2 2s.; J. W. Parke, £1 1s.; *Journal of Horticulture*, £5 5s.; and George Prince, £5.

NEVER are GLADIOLUSES more admired than when flowering in conservatories from the present time until Christmas. In order thus to produce them it is necessary to plant largely corms of the common yet beautiful kinds *Brenchleyensis*, *Fanny Rouget*, &c., early in June. These produce spikes late in the season, and commence showing colour about the end of October. The plants should then be potted, or if they will not lift well, their spikes with foliage surrounding them should be placed in small bottles of water, and these be sunk in pots of soil. The new corms formed by planting thus late are necessarily small, and these should be planted early the following season to produce another supply of large corms. The spikes now unfolding are extremely bright and attractive.

WE regret having to announce the death of Mr. JOHN INGRAM, of the firm of Wood & Ingram, Huntingdon. He died on the 10th inst, aged fifty-four years.

At the Smithfield Cattle Show Messrs. Carter & Co., seedsmen of High Holborn, who recently held the extensive root show in the Agricultural Hall, had a spacious and tastefully arranged stand. It contained choice stocks of Turnips, Carrots, Potatoes, Onions, and Grasses in growth, Grass seeds, and a number of other things, the whole being grown from Messrs. Carters' seeds. Among the horticultural lots were some very fine Carrots, Parsnips, Onions, &c., in great variety. Of Potatoes were specimens of Carter's American Breadfruit, Improved Red-skin Flourball, and Porter's Excelsior.

THE following donations have been offered towards the fund of the southern branch of the NATIONAL AURICULA SHOW, and we are glad to learn that the Committee anticipate being able to provide a good schedule and to secure a good show:—James McIntosh, Esq., £2 2s.; Dr. Masters, £1 1s.; *Journal of Horticulture*, £2 2s.; Dr. Denny, £1 1s.; Mr. C. Lidgard, £1 1s.; Mr. Meiklejohn, 10s. 6d.; Francis Whitbourn, Esq. Loxford Hall, President, £5; Mr. Charles Turner, Royal Nursery, Slough, Vice-President, £5; Mr. E. S. Dodwell, Clapham, Hon. Sec., £5; The Crystal Palace Company, £10; Mr. Douglas, £1 1s.; Rev. H. Honeywood Dombrain, £1 1s.; Mr. Laing, £1 1s.; Mr. Thomas Moore, F.L.S., £2 2s.; Mr. R. Dean, £1 1s.; Rev. F. D. Horner, £2 2s.; Richard Gortan, Esq., £1 1s.; Thomas James, Esq., 5s.; Mr. J. James, Isleworth, £1 1s.; Mr. H. M. Pollett, Bridgewater Gardens, Barbican, E.C., £1 1s.; G. F. Wilson, Esq., £1 1s.; Messrs. Cutbush & Son, £1 1s.

OUR correspondents who write concerning *Eucalyptus globulus* will doubtless be pleased to hear of *E. polyanthemos*, which is perhaps the hardiest of all. A fine tree is in a quite exposed position at Kew near the Museum. In the spring of 1874, when the young growths of forest trees were injured by frost and cold winds, it was quite untouched, though also in a growing state. In 1865, when 20 feet high, the top was killed



by severe frost, but from the base came several vigorous shoots which have since reformed the specimen, and now its glaucous leaves form a good contrast with the green of other trees. The original trunk measures 4 feet in circumference. *E. globulus* is not hardy at Kew, even with wall protection. *E. Gunnii* and *E. urnigera* it is said should be hardy in the climate of Paris.

— At a recent meeting of the LINNEAN SOCIETY, Mr. H. N. Moseley, of H.M.S. "Challenger," read a paper on the flora of Marion Island. This island possesses considerable interest from its isolation, and being within the antarctic drift. It is about 1000 miles from the African continent, 450 from the Crozets, 1200 from the desolate Kerguelen Island, about 2000 from Tristan d'Acunha, and 4500 from the Falklands, to which, nevertheless, its flora appears related. It is of volcanic origin, and snowclad. The rocks at half-tide are covered with *Darvillea utilis*, above high tide *Tillæa moschata* is found in abundance, and beyond the beach a swampy peaty soil covers the rocks, where there is a thick growth of herbage; this is principally composed of species of *Acana*, *Azorella*, and *Festuca*, the first of these three being the most abundant plant on the island, though the latter Grass is by no means scarce. The Cabbage-like plant *Pringlea antiscorbutica* is less profuse than at Kerguelen's Land. Some of the *Ranunculus* group are met with at water pools near the sea. Four kinds of Ferns were obtained; *Lomaria alpina* being the most numerous. Lichens are scarce, but Mosses in plenty form yellow patches, which stand out conspicuously midst the green vegetation, which rises to an altitude of probably 2000 feet. From the occurrence of *Pringlea* on Marion Island, the Crozets, and Kerguelen Island, and the existence of fossil tree-trunks on the two latter, the author surmises an ancient land connected between them.

— THE Paris journals announce the death of a famous ORANGE TREE in its 455th year, known under the name of Grand Bourbon or Grand Connétable. In the year 1421 the Queen of Navarre gave her gardener the seed at Pampeluna. Thence sprang the plant, which was subsequently transported to Chantilly. In 1532, however, the Constable of Bourbon (Lord of Chantilly) having sided with Charles V. against Francis I., his goods were confiscated, and along with them the Orange tree, which was duly sent to Fontainebleau, whence, in 1684, Louis XIV. transferred it to Versailles, where it remained the largest, finest, and most fertile member of the orangery, its head being fifteen metres round, and the trunk seven metres high.

— At the last meeting of the Floral Committee at South Kensington we noticed two plants of *PLUMBAGO ROSEA*, as exhibited by Mr. Ollerhead from Sir Henry Peek's collection at Wimbledon House. We have since seen this *Plumbago* growing at Wimbledon, and do not hesitate to say that the effect produced is one of extraordinary novelty and beauty. The *Plumbagos* are growing in 8-inch pots placed about 4 feet apart, at the foot of a back wall of a heated pit devoted to the cultivation of Melons and Cucumbers. The plants are trained on the wall, and cover it in every part with fresh green foliage and a profusion of rosy-pink racemes of flowers, producing a charming effect. The plants arch gracefully over the path when they reach the shelf at the top of the wall. The wall is 60 feet in length, and its present mode of decoration reflects great credit on Mr. Ollerhead. The effect of this *Plumbago* thus grown is unique and beautiful.

— "J. A." writes—"I purchased a plant of the new *DOUBLE POINSETTIA*, and I now possess half a dozen small plants showing their bracts, but they do not show any signs of coming double. How is it?" To this we reply, that plants thus treated ought not to be expected to produce a multiplicity of heads. Grow a few plants vigorously, not weakening them by repeatedly stopping them and striking cuttings, and they will reward with gorgeous heads of brilliant bracts. This is only a grand plant when well grown, and then it is indeed most striking.

— A WRITER in the "Journal of Chemistry" has thus referred to the MEDICINAL USE OF CELERY:—"I have known many who from various causes had become much affected by nervousness, and who by a moderate daily use of the blanched footstalks of Celery as a salad they became as strong and steady in limb as other people. I have known others so nervous that the least annoyance put them in a state of agitation, and they were in constant perplexity and fear, who were also effectually cured by a moderate daily use of blanched Celery as a salad.

Everybody engaged in labour weakening to the nerves should use Celery daily in the season, and Onions in its stead when not in season."

— IN order to prevent the introduction of the COLORADO POTATO BEETLE amongst Potatoes imported from the United States or Canada, instructions have been issued to the collectors of customs at the various ports of the United Kingdom, that Custom House officers are to look out for the beetle on board vessels, wharves, quays, sheds, or packages landed from vessels, and instantly destroy it. To aid them in identifying the beetle a lithographed sketch and description of it have been issued.

— THE PROPAGATION OF HYACINTHS FROM LEAVES has been lately referred to by Mr. Barleben, gardener to the Berlin University. Mr. Barleben's plan is to take off the leaves when in full vigour, cutting them off as close to the bulb as possible, and insert in a saucer of leaf soil and sand, placing in a frame or greenhouse, and in eight or nine weeks bulbs will form at the base of the leaves. Many years ago an English gardener increased new and rare Hyacinths in a similar manner, but found it necessary to secure a portion of the scaly bulb with the base of each leaf.

— MR. McLEOD, who was lately gardener to the Marquis of Lothian at Newbattle Abbey, has been appointed Superintendent of Public Parks and Gardens of Edinburgh, and we are informed also that Mr. Graham has been appointed Superintendent of the gardens at Hampton Court. The experience and ability of these gardeners are sufficient to ensure the successful management of the important gardens placed in their keeping.

— MR. MOWBRAY, gardener to the Earl of Leven and Melville, writing to us from Fulmer, near Slough, on EARLY VEGETATION, states—"Should the weather continue open and mild I shall have several Peach trees in bloom shortly; the buds are ready for opening now, and are as forward as they ought to be in February. The Cherries are equally as forward. It was the mild warm weather in September that swelled the buds, and they received no check in October. I think we have scarcely ever had a milder autumn than this—in fact, I do not remember ever seeing the fruit trees as forward as they are about here at this period of the year. The agricultural crops of this district are also in active growth. Several pieces of winter Oats nearly cover the ground."

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

THE weather is so very wet that but little can be done on the ground. Such operations as digging, ridging, and even trenching cannot be performed with any degree of comfort to the men employed or benefit to the ground. In such weather Onions stored in lofts, or roots and Potatoes stored in sand in back sheds, can be overhauled and all decaying bulbs or tubers be removed to prevent the spread of decay. It is not possible to wheel barrowloads of manure in such weather without making much extra work by cutting up the ground. Should frosty weather set in advantage may be taken of it to wheel manure on to the quarters. A not uncommon way with some gardeners is to leave it lying on the ground in barrowloads. This is probably the worst way in which to treat manure intended for the garden. It is preferable to spread it out evenly over the ground, or better still, to make a large heap by putting together as much as will manure the quarter, and throw a little soil over it.

Should frost set in tender vegetables will suffer, owing to so much wet, and the weather being so mild has caused them to make much growth, which further makes them more than usually tender. Celery and Cardoons should be protected with straw—long littery stable manure is sometimes used. It is thrown loosely over the sides of the trenches, and some of it over the leaves. A much better plan is to use clean straw of any sort; let the top end of the straw be placed upright against the sides of the Celery trenches, and so that it meets over the tops of the plants. Very little straw is necessary, as if there is too much the air will not circulate freely amongst the plants. The straw is easily kept in its place by stretching a cord along the trench near the top, and affixing the cord to stout pegs inserted in the ground at intervals along the rows. A little soil may be thrown on the lower end of the straw.

Lettuce plants in frames require frequent attention in order to remove any decaying leaves. In wet weather the lights require to be tilted both back and front, so that a constant circulation of air may benefit the plants. Cauliflower plants require

similar attention, and when frosts set in the ground around hand-lights should be covered with manure. It is not necessary to throw any protecting material over the glass.

#### VINERIES.

Except Lady Downe's, Grapes generally are not keeping well, owing to the damp atmosphere, although with us Royal Vineyard and Paul's Waltham Cross have kept hitherto, and suffered but little from damp. We have not yet had fruit upon Pearson's Golden Queen, and cannot say from experience how that sort will keep. It is said to be a good setter, and is also recommended as a good late Grape. Royal Vineyard and Waltham Cross are both of them rather shy setters at Loxford. We keep up the temperature to 70° when the fruit is setting, and nearly all sorts of Grapes that are usually grown set well in this temperature. There is no difficulty with Royal Vineyard if a small globule of moisture which gathers on the stigma is dispersed, and this is done by drawing the hand gently down the bunch when it is in flower.

The importance of removing decaying leaves and berries has been frequently urged, and it is dangerous to allow the temperature to fall much below 40° at night. Ventilate as much as possible, except in wet, thick, or foggy weather. A draught of air through the house at such times carries destruction to the berries.

Forcing should be carried on steadily. Until the buds start we do not care to have the night temperature much over 50° until a few small leaves are formed. After that the night temperature may be gradually raised to 60°, and in a week or two more to 65°, and in the case of a house devoted to early Muscats to 70°. We keep up a good supply of atmospheric moisture, but do not syringe after the leaves are formed. Vines in pots that have been started in November for the earliest Grapes will now have started into growth, and as it was recommended to plunge the pots in bottom heat the roots will be making as much progress as the canes are doing above ground, so that, if necessary, a higher temperature may be kept up in the earlier stages of growth. Great care is necessary in order that the Vines may not suffer from want of water.

#### ORCHARD HOUSE.

The fruiting trees are still out of doors in the plunging material. Soaked they must be at the roots with wet, but we have not observed that injury by this cause has been done in previous seasons. When sharp frost sets in, if the trees are not removed to the house by that time, some dry cocoa-nut fibre refuse placed over the leaves in which the pots are plunged will keep the frost from the roots, and this is necessary, as they make considerable growth during the winter months, and it is not well to check this growth.

Young trees ought now to be potted to form fruiting trees for next season. This may be done by purchasing "maiden" trees—that is, those which have made but one year's growth from the bud. They may be purchased in any large nursery at a cheap rate, and if well treated make good fruiting trees for next year. Some of the large trade firms grow trees in pots, and those who intend "taking to" orchard-house trees in pots and who do not care for the trouble of managing one-year-old trees for a season, would do well to purchase such trees ready trained for fruiting. A season is gained by doing so, and the trade can do the work far better and cheaper than any gardener or amateur can. Strawberry plants have been removed to the shelves near the glass, and when the Chrysanthemum plants are removed no time will be lost in taking in the trees.

#### PLANT STOVE AND ORCHID HOUSES.

Although at this season of the year nearly all the objects in these structures are passing through their resting period, still the temperature of the house in many instances must not be allowed to fall below a certain standard, else heat-loving plants suffer. In the Pine house where are several different species and varieties of *Lxora*, it is found that the plants will not pass safely through the winter months in an average night temperature of 60°. *I. Williamsii* was the first to show signs of distress by some of the leaves falling off, and others showed blotches of decay, but on the plants being removed to a house with 5° more heat a change for the better was speedily apparent. *I. javanica*, *I. Colei* and others do not show any signs of distress as yet, but it is evident that all this class of plants including *Dipladenias* ought to be wintered in a house where the temperature does not fall below 65°. Other plants usually grown in the stove do better with 55°, or from 55° to 60°. However, by far the largest number of our readers have only one, or at most two houses for the different classes of plants; when this is the case much can be done by placing the heat-loving plants at the warmest end of the house, and those that require cooler treatment in the position most suitable for them. Any observant gardener will bear us out in saying that a plant will do exceedingly well in a certain position. Remove it from that place to another in the same house and it refuses to thrive; take it back to its old position and an improved condition is evident.

A very good form for a house intended for a miscellaneous collection of stove plants is a span-roof, wide enough to admit of

a centre pit for fermenting material, and a slate platform round the sides and ends about 2 feet wide. The centre of the house will be a few degrees warmer than the outside, and if the pit is filled with tan or oak leaves a genial lasting heat will be obtained, and if it does not rise above 85° or 90° the pots may be plunged to within a few inches of the rim. Under such circumstances the plants would not suffer in a slightly lower temperature than would otherwise be required. Then another class of plants should be arranged on the side platforms, beginning with those requiring most heat at the warmest end. In our stove, 28 feet by 20, there is a difference of 5° between the temperature at the end nearest the boiler and that furthest removed from it.

Orchids require considerable attention during the winter months. Very little water is necessary at the roots, but the drying-off system may be carried too far even at the dullest period of the year. *Cattleya Warnerii* is just now starting into growth, but it is not necessary on that account to do more than keep the compost moist. If the plants are potted in turfy peat and sphagnum allow it to become quite dry before watering; although the pseudo-bulbs are being formed for next season, the roots will not be in an active state until midsummer. The same may be said of *Lælia purpurata*; the growths are further advanced than those of *Cattleyas*, but the roots are not yet productive. All other *Cattleyas* and *Lælias* of the same class require similar treatment. Those on blocks and brackets will require more water according as the roots have less or more material around them. *Odontoglossums* in the cool house require a considerable supply of water, as many of them, such as *O. crispum*, *O. triumphans*, *O. odoratum*, *O. cirrhosum*, and others of this section, are just making their growth. They do not require a high temperature; from 45° to 50° is quite sufficient; but the glass ought to be washed quite clean, and must not be allowed to become obscured. After a day or two of our thick London fogs the glass outside may be washed with a syringe or garden engine. Some of the *Masdevallias* are also making their young growths, and the plants require very similar treatment to that of *Odontoglossums*. If any slugs are in the house they must be searched for after it is dark at night; one of them may destroy at one meal a plant worth many pounds. There had been no trace of slugs in our cool house for months until one night a strong growth of *Masdevallia Veitchii* was observed to be eaten off. The intruder was caught next night as soon as it was dark. Had no search been made for an hour or two perhaps another growth would have been destroyed. Slugs are also very fond of eating through the stems of *Odontoglossums* just coming out of their sheaths. The paths and stages of Orchid houses ought to be damped over at least once every day.—J. DOUGLAS.

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

NEWCASTLE-UPON-TYNE. March 21st and 22nd, 1877. Messrs. J. H. French, Benwell House, and J. Taylor, Rye Hill, Hon. Secs.  
LEEDS (Spring Show). April 2nd and 3rd. Mr. A. Walker, Neville St., School Close, Leeds, Hon. Sec.  
WISBECH. June 28th. Mr. Charles Parker, Hon. Sec.  
TONBRIDGE. July 18th. Mr. W. Blair, Sec.  
ISLE OF THANET. August 30th. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

BOOKS (B.).—The "Garden Manual," price 1s. 6d., can be had free by post from our office.

FUNGI (C. B. P.).—The specimens were smashed by the post-office punches.

CARPET BEDDING PLANTS (G. B. T.).—After the reservation you have made we cannot think of more than three which you may raise from seed—namely, *Oxalis tropaeoloides*, *Cerastium tomentosum*, and *Mesembryanthemum cordifolium variegatum*.

CHILIAN BEET (*Bestroot*).—It will throw up flower stems next spring, but the roots should be at once transplanted to their seedling quarters—not taken up and stored until spring.

TARRING TREE TRUNKS (*Royal Oak*).—The gas tar will not do the trees any good, but it may save them from being denuded of the bark by hares, rabbits, or horses, if the latter have access to the trees. We have not noticed any great injury result to the trees from coating them with gas tar, but we do not advise the use of tar except as a preventive of hares, &c.

TEMPERATURE FOR ORCHIDS (*Rus*).—*Calogyne cristata* should now be kept dry, and in a cool stove or warm greenhouse. It is one of the cool Orchids, being from Nepal; it would succeed probably in a not very airy greenhouse. *Dendrobium formosum* does not need a higher temperature in winter than an intermediate one—i.e., a cool stove or warm greenhouse. *Poinsettias* require a temperature in winter of 55° to 60° at night, and 60° to 65° by day, with a rise to 75° from sun.

HOthouse ARRANGEMENTS (*Rosa*).—Your term "hothouse" is very indefinite. If you mean a stove, which is a common acceptance of the term hothouse, you will require four 4-inch hot-water pipes—two flows, with their returns along three sides of the house, or better still all round, excepting of course the doorway. We should have shelving along two sides and one end of the house, omitting the doorway—3 feet wide, and beneath this shelving place the hot-water pipes. At the other end of the house we should arrange a rockery for Ferns, with a base of about 8 feet; a walk all round the house (3 feet) will give you a central bed of some 9 feet in width. The path-

way would of course need to be carried across the end next the rockwork, and beneath this the hot water could be taken in an open flue covered with iron grating forming part of the pathway. You could arrange for a "sloping bank" of rockwork all around the house for Ferns, and take the hot-water pipes in an open flue with ornamental grating over forming part of the path, and dispose of the centre as a bed or stage for plants, which should be formed of stone or slate.

**ORCHIDS FOR NOVEMBER AND DECEMBER (J. S. W.).**—*Calanthe vestita* var., *Zygopetalum Mackayi*, *Odontoglossum Alexandrs*, *O. grande*, *O. Insleyi*, *leopardinum*, *Dendrobium nobile*, *D. Wardianum*, *D. chrysanthum*, *Laelia anceps*, *Lycaste Skinneri*, *Cypripedium niveum*, and *C. insignis*. Nearly all Orchids will, whilst in flower, endure the atmosphere of a conservatory kept at about 50°.

**GARDENIA FLORIDA DYING (An Apprentice Gardener).**—We should attribute the death of the plant to having had all the soil removed, and the consequent loss of fibrous roots. The daily syringings were not likely to mend matters in such a case, as the fresh soil would be made too wet.

**PROPAGATING EPACRISSES, HEATHS, AND CAMELLIAS (W. P.).**—*Epacris* and *Eriacis* are propagated by cuttings of about 1½ to 2 inches in length. The tips of the shoots when of that length are inserted in pots half filled with drainage, some rough peat placed over it, the pot filled to within half an inch of the rim with fine sandy peat, and the remainder with silver sand pressed firmly; water thoroughly, and a few hours afterwards put in the cuttings, and cover them with a bell-glass, placing in a cold pit or frame, shading from sun. Camellias are increased by grafting upon stock of the single kind. Cuttings for stocks require to be of the ripe wood, inserted firmly in sand, kept in a close frame for a month or six weeks, and then placed in a gentle bottom heat. The plants you name can be bought from the trade growers more cheaply than they can be propagated in private gardens.

**REPORTING CAMELLIAS (J. H.).**—The potting should not be done until the flowering is very nearly over. We do not pot ours until the buds are set, generally in August up to early September.

**DRACENA FLOWERING (G. S.).**—Keep the plant in the same temperature, and when it flowers keep the atmosphere dry, and fertilise the flowers. The Fern No. 4 is *Cheilanthes lundigeri*, and No. 6 appears to be *Adiantum concinnum* latum.

**PETALS FALLING OFF CUT FLOWERS (A Constant Reader).**—Drop into the flower, so as to run down to the bases of the petals, very thick gum water.

**APPLES (Senex Coryius).**—We have no doubt that the names you have attached are correct; but they are local names, and the varieties are not known out of the cider districts.

**APPLE AND PEAR SPRAYS (L. I. K.).**—They are all attacked by canker. The roots have descended too deep in a clayey soil. The trees should be lifted, and the roots kept near the surface.

**RAISING FLOWER BEDS (Alpha).**—Taking up flowers for your purpose at this season will not injure them. Cocoa-nut fibre refuse is not a good manure, and covering the plants with it 2 inches thick would probably injure some of them.

**MAKING AN ASPARAGUS BED (A. C.).**—This is best done at the end of March or early in April, being the best time also for planting. If the ground is common loam and well drained, or having a subsoil of gravel or chalk, nothing more is needed than to trench the space intended for the bed, and to mix with the soil as much rich thoroughly decayed dung as can be worked-in. Have only two rows of plants in each bed, as this enables them to be cultivated and cut from easily. Set the rows out 2 feet apart, stretching the line, and drawing with a hoe a drill on each side of it sufficiently deep for the roots to be extended on each side of the little ridge which is thus left between the two drills, and on which ridge the plants are placed. Their roots being equally divided on each side, nothing more is required than filling up the drills with a hoe or rake. The plants should be chosen when they have started into growth 2 or 3 inches; they should be forked out carefully, and their roots not allowed to get dry after being taken up. No heads should be cut the first year after planting, and very few the second.

**PEARS FOR WALLS (F. I.).**—West aspect—Marie Louise, Van Mons Leon Leclerc, Beurré Diel, East aspect—Beurré Bosc, Winter Nalis, and Glou Morceau. Tea Roses will do well on a low wall with west aspect.

**COVERING VINE BORDER (J. Thomas).**—In wet districts and in wet seasons it is as well to place boards over the Vine border to throw off superfluous wet, but the covering must be watertight, and some arrangement must be made to drain away the water falling from the boards, else it will only be carrying water from one part of the border to run it on to the other.

**MANAGEMENT OF PEACH TREES (Young Beginner).**—If you want to gather Peaches in April or May, the house must be started at once (see last number, page 495). You will not be successful with greenhouse plants in the same house. The *Chrysanthemums* may be placed in a cold frame, or failing that in a sheltered place out of doors.

**TANK FOR BOTTOM HEAT (Staines).**—Two 4-inch pipes will be sufficient. Plunge the Pines in tan.

**STANDARD CHRYSANTHEMUMS (B. E.).**—Insert the cuttings now or early in February in a little bottom heat. Grow the plants on without any check, and stop them at the required height. The succeeding growths must be trained into shape by fixing a ring of iron wire the height of the plant and about 2 feet in diameter. Cultural directions are given in the present number.

**LADY DOWNE'S GRAPES CRACKED (L. D.).**—What you say in your communication is very feasible; but you also say that they began cracking immediately after heavy rain, therefore there can be no reason to doubt but that the wet border is the cause, and the wet close atmosphere would also aid in the destruction of your crop.

**VINES FOR LATE VINERY (Idem).**—Lady Downe's, Gros Colman, Alicante, and Pearson's Golden Queen. The two best Peaches for your purpose are Early York and Royal George.

**POTATOES FOR EXHIBITION (J. R.).**—Omit King of Potatoes and Melbourne Hero, and substitute them with Lapstone. In the class for rounds replace Early Handsworth and King of the Earlies with Schoolmaster, a splendid sort sent out by Mr. C. Turner of Slough. The true Early Handsworth is one of the earliest, if not the earliest round Potato; but this is a different variety from many of the dishes exhibited at the Alexandra Palace under that name.

**PROPAGATION OF PHILODENDRON (One in a Fin).**—This plant may be readily propagated by division of the roots, or by cuttings of short young

growths. The cuttings should be inserted in sand in a pot and placed under a bell-glass. It is a stove plant.

**AMERICAN BLACKBERRIES (Inquirer).**—The Lawton Blackberry can be bought of the raiser, Mr. William Lawton, New Rochelle, New York, U.S.A.; or from Messrs. Kilwanger & Barry, whose advertisement appears in the Journal.—H. S. J. It can also be purchased at Messrs. Veitch & Sons' nurseries, Coombe Wood.

**STONE-COLOURED PAINT (C. Alley).**—Mix stiff ground white lead with a little spirit of turpentine into a smooth cream, adding linseed oil and more turpentine until of the desired thickness; then thoroughly mix with it a little powdered burnt umber to impart the stone tint.

**FEWER PLANT (J. R.).**—This is one of the popular names of *Eucalyptus globulus*.

**ROSE BUD (An Interested Reader).**—No one could tell the name from the specimen sent.

**CUCUMBERS FOR FRAME CULTURE (E. B.).**—Manroe's Duke of Edinburgh is a very free-bearing and fine-flavoured kind. Master's Prolific is also first-rate; both bear fruit about a foot in length; and for size Tender and True is very good. Telegraph is also very desirable, but for general frame culture and everyday use we prefer the first-named variety. We should not sow until the early part of February.

**DESTROYING WEEDS ON GRAVEL WALK (G. Foster).**—Dissolve 1 lb. of powdered arsenic in three gallons of cold water, stirring until it boils, then add seven gallons of cold water and 2 lbs. of crushed soda. Stir the whole well whilst boiling, and with a rose watering-pot apply to the walks in dry weather from March to May. An inclining board should be placed so as to keep the hot liquid from the grass or Box edgings. The quantity named is sufficient for 25 square yards. Carbolic acid has been recommended to our correspondent for the purpose. We should be obliged by particulars as to the quantity and mode of application.

**POMPON CHRYSANTHEMUMS (P. P.).**—Perhaps the best white, dark, and yellow rather late varieties are Mdlle. Marthe, Bob, and Golden Circle.

**NAMES OF FRUITS (G. Stone).**—The Pears are—105, Vernal; 172, Beurré Clairgeau; 65, Duchesse d'Angoulême; 150, Catillac; 170, Vicar of Winkfield; 97, Suesette de Bayay. (James Lessels).—Pears—1, Glou Morceau; 2, Colmar; 3, Catillac. Apples—1, Autumn Pearmain; 2, Braddick's Nonpareil; 8, Sturmer Pippin. (C. B.).—It is possible the Apple is a seedling, but it is not one which is possessed of merit superior to many others in cultivation.

**NAMES OF PLANTS (W. P.).**—1, *Salicigella denticulata*; 2, *Sedum acre* (E. B. B.).—*Begonia Weltoniensis*. It is very pretty from its foliage and flowers at this season in a warm greenhouse or cool stove. It belongs to the natural order Bignoniaceae, and Class 21, Monocot; 9, *Polyandria*, *Linna.* (A Young Gardener).—We cannot name plants either from leaves only, or that are florists' varieties.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### CAN A POULTRY FARM PAY?

I MUST apologise to Miss Weston for not having answered her letter of November 23rd before this, but my time of late has been so much occupied. Even now I can only write very briefly, but will do so more at length in a week or two.

In the first place, what I wanted to elicit was the opinions and advice of others, and I am delighted to find the matter taken up by Miss Weston; and I am only glad that Mr. Bailey, Mr. F. Wragge, and other large breeders will come to the front and aid in the work. I can assure Miss Weston that, so far from wishing to take her letter in bad part, I am only too glad to find that others are interested in such a work as I propose.

I would particularly ask Miss Weston to read again the last three lines of my letter in your impression of November 9th—"Many of these supposed items may not turn out facts; but I think enough has been shown to infer that there is fair ground to expect with due care and supervision there should be a fair profit."

Now a few words as to the figures. I must make a few corrections. On making inquiry as to land I find I can get land very suitable at 10s. per acre. Thus it stood before: Thirty acres at 30s. per annum per acre, £45. Now it stands: Thirty acres at 10s. ditto, £15. Again as to markets. Inquiries preliminary to arranging contracts show that I can throughout the year obtain from 8s. to 9s. per 120 eggs. The prices of fowls, chickens, &c., would be slightly in advance of that stated. As to hatching, I do not expect fifty hens to do all the hatching. The fifty hens are to be kept chiefly on that account; but as I expect them to lay some eggs as well, so do I expect my other two hundred hens to do some hatching as well as lay eggs. Besides this, I can hire temporarily sitting hens when required.

Now as to Brahmas and Houdans, which are the breeds I have kept and now intend to use (I have given up Redcaps), I found for many years that I had over five thousand eggs from about forty hens and pullets. During that time I entered every day the number of eggs received during each year, and weight and number of birds killed during the same period. I cannot just at present obtain this book to give extracts, but will do so when I can. As to breeding, one of my axioms is that you cannot expect more than eight birds out of a sitting of twelve eggs.

After consulting markets, train arrangements, &c., I find some figures to alter. Some I have mentioned, others I hope to do in a week or so. Finally I may say that I never expected to see a balance in favour of the undertaking such as may casually be deduced from the figures. I purposely omitted to draw a balance

of profit and loss, and ended my letter with the words quoted above.—G. R. HARRIOTT, *Killmore*.

### LEEDS SHOW OF POULTRY, &c.

THE seventeenth annual Show of the Leeds Smithfield Exhibition was held on the 5th, 6th, and 7th inst. The entries numbered about 830. The show room was crowded every evening, and the receipts were larger than in any previous year.

In poultry *Game* headed the list, and as usual these were very good, a capital pen of Brown Reds carrying off the cup. The cock in this pen had a very well-laced breast, as also had the first in chickens; but as a rule the breasts were defective in that respect. Black Reds were good in colour and style, but some were not good in carriage of tail. Duckings were good in both classes, as also the Piles; the latter, however, were somewhat scanty in feather. In the following classes the birds were in pens of cock and two hens, and the consequence was that in some of the classes the entries were not numerous, this applying mostly to the large varieties, in which section the cup was carried off by a pen of Dark Brahmas, and the cup in the next section by Silver Polish. *Spanish* had but ten entries in the two classes, but these were well placed and the winners good. In *Houdans* we observed the butterfly comb, which we look upon as the leading characteristic of the breed, was made of only secondary consideration, size with any style of comb being the leading feature. We think it a pity to lose this grand point of the breed. *Hamburgs* were more numerous than some of the above-named breeds, and the quality was very good in some cases, especially the Silver varieties; the cup for the best pen going to a very well-matched set of Silver-spangled chickens. In one pen we observed a needle projecting from the under side of the spike of the cock's comb (Walker & Bentley of Holmfirth), and of course disqualification followed. *Bantams* were numerous and the quality good. In some cases we found pullets shown as hens, but not so in Duckwings, which we consider were honestly shown. In Black Bantams the style and carriage of tail were good, but rather short of feathers. The Bantams were placed too high to look well.

*Pigeons* were in pairs, and this being rather unusual the entries were not as large as would have been the case if shown singly. In some cases the awards were ruled by the matching, one good bird being spoiled by a bad one, throwing the pen out, as in the case of the Carriers; the hen was a gem, but the cock had in eye, the chance of the cup was thrown away, the cup in this case going to a grand pair of Yellow Dragons, which for colour and matching could not be surpassed. Pouters were good, but the pens were too small; when removed to larger pens while they were judged the birds had quite a different appearance. First were Blues, the cock superior, but hen somewhat backward. Second Blacks, a well-matched pair, both good in length of limb. Carriers not good. First Duns and second Blacks. Tumblers, first a well-matched pair of Almonds, second and third also good Almonds. Long-faces, first Black Balde, second Yellow Muffs. The Mottles not good. Owls were a fair lot. First Blue English, and second White Foreign. Pen 690 (Silvers) were a good well-matched pair. Jacobins were a capital class, there being little to choose between the first and second-prize winners, both Reds, the first rather short in face. Pen 699 (Blacks) contained an excellent bird. Turbits were rather irregular. First Blues and second Reds. Fantails a good class, but the pens far too small to show them. Barbs poor, except the winners. First Reds and second Blacks. In Nuns there were no good pairs with the exception of the winners, but one pen contained a grand hen. Dragons, first and cup for the best pen in the Show, Yellows. Second Silvers with black bars. One pen of Blues were good, except that they were too soft and fleshy in eye. Antwerps, Long-faced, first Red-chequers and second Duns, no others coming near these in quality. Short-faced were a large class. First Silver Duns and second Red-chequers. Pen 757 contained a hen quite equal to the first winners, but the cock was not good. Magpies a very good class. First Reds and second Yellows. Swallows poor, except the winners. In the Variety class first were Pigmy Pouters, second plain Ice Pigeons. This was a very good class. In the Selling class first were Blue Pouters and second Red Turbits.

*Rabbits* were a grand collection—the best, in fact, that has ever been seen at Leeds, the entries being about 130, the medal going to a Silver-fawn Dutch, one of the most evenly marked Rabbits we have seen for a long time. In Lops, which was a class that measured well, were—first a Sooty-fawn of grand style and carriage, 22½ by 4½. A Fawn-and-white doe, 22 by 5, was second; this was quite young and very promising. Pen 433, a Fawn-and-white, 22½ by 4½, was thrown out, its legs being crooked. Silver-Greys a good class, very even in body, but the silvery not quite perfect. Himalayans a good class, the first very dark in points, the second being much inferior. Angoras a capital lot. First a very fine-woolled specimen and good in size. Second very long in wool. Many others were

also very good. In Dutch there were about five that were nearly perfect, but all the rest were more or less indifferent. It is seldom such a class of Belgian Hares is seen by the fact that the grand doe usually shown by Mr. Robinson was only highly commended. The two winners were almost equal, the first only beating in pencilling or ticking. In the Variety class Silver-creams won. The first in the Selling class was a Silver-Grey with a slight tendency to be mealy, but very even; and second a Grey-and-white Lop doe, 21½ by 4½. The class was large, and many others were noticed.

**POULTRY.**—*GAME.*—Cock.—1, R. Garnett. 2, E. Lund. 3, E. Aykroyd. Cockerel.—1, R. Garnett. 2, Ambler & Hartley. 3, T. Dyson. *PULLETS.*—1, I. Mather. 2, E. Cameron. 3, H. Leighton. *BLACKBREASTED RED.*—1, W. H. Adams. 2, W. J. Mason. 3, T. Mason. *CHICKENS.*—1, E. Lund. 2, M. Jowett. 3, W. Spencer. *BROWN-BREASTED AND OTHER REDS, EXCEPT BLACK.*—1, E. Aykroyd. 2, W. H. Adams. 3, Johnson & Thornton. *CHICKENS.*—1, J. Robinson. 2, T. Mason. 3, W. H. Adams. *DUCKWINGS.*—1, T. Mason. 2, J. A. & H. H. Staveley. 3, W. J. Mason. *CHICKENS.*—1, T. Dyson. 2, H. Feast. 3, H. C. Mason. *ANY OTHER VARIETY.*—1, J. C. Dixon. 2, H. C. Mason. 3, R. Walker. *CHICKENS.*—1, E. Lund. 2, J. Lund. 3, R. Walker. *DORKINGS.*—1, J. Cople. 2, J. Walker. 3, H. Beldon. *CHICKENS.*—1, J. Walker. 2, J. Stott. 3, T. Eiden. *COCHINS.*—1, W. Mitchell. 2, T. Aspden. 3, J. North. *CHICKENS.*—1, T. Aspden. 2, H. Dean. 3, W. Mitchell. *BRAHMAS.*—1, E. Pritchard. 2, R. Hargreaves. 3, M. Hall. *CHICKENS.*—1, H. Wilkinson. 2, M. Hall. 3, W. Schofield. *SPANISH.*—1, R. Newbitt. 2, H. Beldon. 3, J. Powell. *CHICKENS.*—1, J. Thresh. 2, J. Powell. 3, H. Wilkinson. *HOUDANS.*—1 and 3, M. Hall. 2, S. W. Thomas. *CHICKENS.*—1, M. Hall. 2, S. W. Thomas. 3, J. E. Pilgrim. *CREVE-CEBRES.*—1, W. Cadack jun. 2, L. Garnett. 3, W. Hartley. *POLEYS.*—1, H. Beldon. 2, A. & W. H. Silvester. *CHICKENS.*—1, H. Beldon. 2, A. & W. H. Silvester. 3, J. Stephenson. *HAMBURGS—Gold or Silver-spangled.*—1, H. Robinson. 2, H. Beldon. 3, T. Dean. *Gold-spangled.*—1, H. Beldon. 2, G. & J. Duckworth. 3, J. Roberts. *Silver-spangled.*—1, H. Beldon. 2, G. & J. Duckworth. 3, J. Roberts. *Silver-pencilled.*—1, H. Beldon. 2, T. P. Carver. 3, H. Pickles. *Gold-pencilled.*—1, H. Beldon. 2, H. Beldon. 3, J. Rawnsley. *Silver-pencilled.*—1, J. Rawnsley. 2, H. Digby. 3, H. Beldon. *Black.*—1, H. Beldon. 2, Popplewell Brothers. *CHICKENS.*—1, Stott & Booth. 2, H. Robinson. 3, H. Beldon. *SELLING CLASS.*—1, T. Aspden. 2, Moore & Cartwright. 3, J. Powell. *BANTAMS—Game.*—Cock.—1, G. Noble. 2, W. Baskerville. 3, R. Newbitt. *Red Game.*—1, G. Noble. 2, F. Steel. 3, E. Jennings. *CHICKENS.*—1, G. Hall. 2, E. Walton. 3, H. Dean. *Duckwing Game.*—1, W. Baskerville. 2, J. & D. Moody. 3, G. Hall. *CHICKENS.*—1, R. Newbitt. 2, G. Hall. 3, F. Steel. *Black.*—1, H. Beldon. 2, E. Walton. 3, R. H. Ashton. *White.*—1, H. Beldon. 2, E. Walton. *Gold or Silver-spangled.*—1, R. H. Ashton. 2, J. W. Lloyd. 3, T. Carver. *Any other variety.*—1 and 3, F. Steel. 2, J. Blamires. *TURKEYS.*—1, J. Walker. 2, G. Mangles. 3, S. A. Kirk. *GERSE.*—1, R. Garbutt. 2, J. F. Crowther. 3, J. Walker. *DUCKS—Aylesbury.*—1, J. Walker. 2, J. Newton. 3, M. J. Sagar-Musgrave. *Rouen.*—1, J. Walker. 2, J. Newton. 3, G. Mangles. *Any other variety.*—1, J. Walker. 2 and 3, A. & W. H. Silvester. *Selling Class.*—1, W. Schofield. 2, G. Fentriss. 3, E. Shaw. **PIGEONS.**—*POUTERS.*—1, J. E. Crofts. 2, E. Horner. *CARRIERS.*—1, J. W. Harvey. 2, H. Yardley. *TUMBLERS—Short-faced.*—1, H. Yardley. 2, W. Bins. 3, T. Wilson. *JACOBINS.*—1, E. Horner. 2, J. Thompson. *TUMPEPERS.*—1, W. Harvey. 2, J. E. Crofts. *TURBITS.*—1, R. Woods. 2, E. Horner. *FANTAILS.*—1, E. Horner. 2, H. Yardley. *BARBS.*—1, J. Walker. 2, E. Mawson. *NUNS.*—1 and 2, E. Horner. *DRAGONS.*—1, R. Woods. 2, W. Smith. *ANTWERPS—Long-faced.*—1, W. Ellis. 2, E. Lund. *Short-faced.*—1, E. Mawson. 2, J. Kendrick. *MAGPIES.*—1, E. Horner. 2, R. Ord. *SWALLOWS.*—1, E. Horner. 2, H. Yardley. 3, H. Yardley. *ANY OTHER VARIETY.*—1, A. & W. H. Silvester. 2, W. S. Dawson. *SELLING CLASS.*—1, J. E. Crofts. 2, L. E. Hainsworth. **RABBITS.**—*LOPE-EARED.*—1, C. E. Thompson. 2, T. Myton. *SILVER-GREY.*—1, T. & E. J. Fell. 2, E. Pepper. *HIMALAYAN.*—1, J. Greenwood. 2, S. Ball. *ANGORA.*—1, R. G. Swaine. 2, H. C. Holloway. *DUTCH.*—1, Miss E. Tateson. 2, W. Miles. *BELGIAN HARE.*—1, J. H. Roberts. 2, J. E. Pilgrim. *ANY OTHER VARIETY.*—1, E. Pepper. 2, H. E. Gilby. *SELLING CLASS.*—1, H. E. Gilbert. 2, H. Myton.

**JUDGES.**—*Poultry, Game, and the large varieties:* Mr. R. Teebay. *Hamburgs and Bantams:* Mr. A. Fielding. *Pigeons and Rabbits:* Mr. E. Hutton.

### CANTERBURY SHOW OF POULTRY, &c.

OVER nine hundred pens were exhibited, of which number five hundred were poultry, and among them birds of rare excellence that have been to the front at the Crystal Palace. The cup *Dorkings* were worthy of the county, and we have rarely seen so many good birds brought together. *Cochins* were good for a north of England show, Mrs. Christy taking first honours with a fine pair. *Brahmas* were good, especially the Lights, and they mustered forty-six pens. To Miss E. Shuter was awarded the jardiniers for a good pair of Darks. Light pullets had a cup to themselves, which was won by a good pair. *Game* were a good lot, the cup going to Mr. Foster for pen 149, but we did not like the hen. Pen 168 contained some very good Duckwings, which took the first, and a good pair of Piles had the second prize. *Hamburgs* mustered nineteen pens; as a class we did not consider them good. The majolica vase was awarded to very good pair of Silver-spangles, which were quickly sold at the catalogue price. The Hamburgs were not in a good light, and we consider not well judged. *Houdans* were not very numerous, but particularly good. We missed the cordial shake of the hand of our old departed friend Dring. *Crèves* were a small class of only four entries; *Spanish* also a small class. *Bantams* were very numerous and a good class. *Game*, any other variety, the first-prize birds were good Piles. Black Bantams were very good. In Bantams, any other variety, the first were very good Silver Sebrights. In Any other variety of fowl *La Flèche* took first, Golden Poland second and third, and Sultans fourth. The were only seven entries and four prizes in this class. *Ducks* were a grand lot of birds, the cup being won with a first-class pair of Rouens. In Ducks, any other variety, first were Pekins, second Pintails, third Carolinas. *Geese* were not a good class. *Turkeys* were a grand show, second only to that at the Crystal Palace.



Pigeons mustered 197 pens of very excellent birds. We are sorry to hear Dr. Bowes lost a valuable bird, being either misplaced or abstracted. He has advertised a reward for the valuable White African hen Owl stolen from pen 603. We are authorised to state the bird is marked and can be identified. Antwerps seem the favourite breed in Kent, and were largely represented. *Canaries* were also both numerous and of unusual excellence.

Mr. Ladd, the Hon. Secretary, exerted himself to the utmost, and nothing was wanting to make this, the first Kent County Canterbury Show, a great success. All missed and regretted the absence of Mr. Mount, who through ill-health has been obliged to resign those arduous duties which he as Secretary so well hitherto discharged.

**POULTRY.**—**DORKINGS.**—Coloured.—Cup and 8, R. Cheesman. 2, E. Rice. *Chickens.*—1 and 2, E. Cheesman. 3, E. Rice. *Silver-Grey.*—1, Miss S. A. Hodgkin. 2, T. Wotton. 3, R. Cheesman. *Chickens.*—Extra Cup, C. Ratcliffe. 2, Major W. Plummer. 3, F. Cheesman. *White.*—1, Boulding. F. Cheesman. *Any other variety.*—1, R. A. Boissier. 2, Major W. Plummer. 3, C. J. Plumtree. **SPANISH.**—1, C. W. Hammond. 2 and 3, W. Hamilton. **COCHIN-CHINA.**—*Buff or Cinnamon.*—Cup and 3, Mrs. A. Christy. 2, G. Dowker. *Chickens.*—1 and 3, G. Dowker. 2, Mrs. A. Christy. *Any other variety.*—1, J. Barwick. 2, R. A. Boissier. 3, Col. R. P. Laurie. **BRAMA POOTRA.**—*Dark.*—Jardiners, Miss E. G. Shuter. 2, W. Jacob. 3, Capt. Rice. *Chickens.*—1, Miss E. G. Shuter. 2, J. A. Beames. 3, J. Findlay. *Light.*—1, G. Dowker. 2, Miss Hales. 3, Capt. W. Savile. *Chickens.*—1, Capt. W. Savile. 2, Capt. Lloyd. 3, G. Dowker. *Light or Dark.*—*Pullets.*—1 and Extra, E. Rice. 2, Miss Lloyd. 3, Capt. W. Savile. *White.*—1, Lister. G. Dowker. Miss Hales, J. A. Beames. *Game.*—*Black-breasted or other Reds.*—Cup and 3, W. Foster. 2, F. Warde. *Chickens.*—1 and 2, F. Warde. 3, W. Foster. *Any other variety.*—1 and 3, W. Foster. 2, Fitz-Herbert. *Chickens.*—1, Chittenden. 2, E. Rice. 3, F. Warde. *Any variety.*—*Cock or Cockerel.*—1, E. Rice. 2, F. Warde. 3, J. Dixon. **HAMBURG.**—*Gold or Silver-spangled.*—*Majorca Vase.*—1, K. Stowbridge. 2, T. Kennett. 3, P. Hanson. *Gold or Silver-pencilled.*—1, Mrs. Stowbridge. 2, R. White. 3, J. Fox. **HOUDANS.**—1 and 2, Mrs. Vallance. 3, F. Lake. *Chickens.*—1 and 3, Mrs. Vallance. 2, F. Lake. **CREVE-CEURS.**—1 and 2, H. Stephens. 3, Mrs. A. Sharp. **BANTAMS.**—*Game, Black-breasted or other Reds.*—Cup, W. White. 2, J. Bateman. 3, W. S. Marsh. *Game, any other variety.*—1, F. Warde. 2 and 4, W. S. Marsh. 3, W. White. *Black or White, Clean-legged.*—Cup, L. G. Morrell. 2 and 3, W. White. *Any other variety.*—1, H. Stephens. 2, W. White. 3, Lady Oxenden. 4, R. A. Boissier. **ANY OTHER VARIETY.**—1, H. Stephens. 2, Rev. C. Sheppard. 3, R. Cheesman. 4, H. G. Howe. **DUCKS.**—*Aylesbury.*—1, Master J. Hort. 2, Miss K. Pellatt. 3 and 4, W. Jacob. *Rouen.*—Cup, M. Sandford. 2, W. F. Harvey. 3, J. K. Lawther. 4, C. S. Hardy. 5, H. H. Kingnorth. *Any other variety.*—1, W. Jacob. 2, G. Dowker. 3, L. G. Morrell. *Geese.*—1, W. Gardner. 2, J. Crowhurst. 3, W. Marchant. **TURKEYS.**—Cup, W. F. Warde. 2, C. S. Hardy. 3, Rev. F. Scott. *White.*—C. J. Plumtree. *Poulters.*—1, G. Dowker. 2, C. J. Plumtree. 3, F. Warde. **PHASANTS.**—1, L. G. Morrell. 2, G. Hills. 3, J. Verrier. **SELLING CLASSES.**—*Fowls.*—1, G. Dowker. 2, Capt. W. Savile. 3, W. S. Marsh. 4, R. A. Boissier. *White.*—L. Collard. E. Harris. J. K. Lawther. *Fowls, Ducks, Geese, Turkeys, and Pheasants.*—*Cock or Cockerel.*—1, J. W. Watson. 2, T. W. S. Pattenston. 3, Capt. W. Savile. 4, R. B. Curties. *Hens or Pullets.*—1, R. Cheesman. 2, Capt. W. Savile. 3, J. Chittenden. 4, R. Sheppard. *White.*—Capt. Rice. F. Hanson. *Any variety.*—1, P. Hanson. 2, Capt. W. Savile. 3, J. Chittenden. *White.*—W. G. Cloke.

**PIGEONS.**—**CARRIERS.**—1, H. Mitchell. 2, R. Fulton. 3, J. Chandler. *Cock.*—Cup and 2, R. Fulton. 3, J. Chandler. *Hen.*—1, J. Chandler. 2, R. Fulton. 3, H. Stephens. **POULTERS.**—1 and 2, R. Fulton. 3, D. Keall. *Cock.*—1 and 3, R. Fulton. 2, Dr. Bowes. *Hen.*—1, R. Fulton. 2, Dr. Bowes. 3, C. F. Shoosmith. **DRAGONS.**—1, R. Fulton. 2 and 3, J. Chandler. *Cock or Hen.*—1, J. Chandler. 2, E. Barrell. 3, R. Fulton. **JACOBIENS.**—1, H. Stephens. 2 and 3, R. Fulton. **TUMBLERS.**—*Diamond.*—1 and 2, R. Fulton. *Any other variety.*—1, R. Fulton. 2, H. C. Sutton. **TURBITS.**—1 and 3, C. F. Shoosmith. 2, T. Homes. **OWLS.—1, Dr. J. Bowes. 2, R. Fulton. 3, W. Mount. **FANTAILS.—1 and 3, C. F. Shoosmith. 2, R. Fulton. **ANTWERPS.**—*Homing, Long-faced.*—1, W. S. Marsh. 2, J. Francis. 3, W. J. Palmer. *Homing, Short-faced.*—1, F. Winsor. 2, H. Kennett. 3, C. F. Shoosmith. **ANY OTHER VARIETY.**—1 and 2, R. Fulton. Extra 2 and 3, M. H. W. Webb. Extra 3, H. H. Stephens. 4, M. Martin. **SELLING CLASS.—1, M. Martin. 2, H. C. Sutton. 3, Col. Hassard. 4, F. H. Ham. *White.*—E. Jones.******

**CAGE BIRDS.**—**CANARIES.**—*Clear Yellow Norwich.*—1, 2, and *White.*—J. Caplin. 3, J. S. West. *Clear Buff.*—1, 2, and 3, J. Caplin. *White.*—J. S. West. *Marked Yellow.*—1, J. Caplin. 2 and 3, J. S. West. *Marked Buff.*—1, J. Caplin. 2 and 3, J. S. West. *Crested Yellow or Buff.*—1 and 2, J. S. West. 3, J. Caplin. *Yellow Cinnamon.*—1, T. W. Fairbrass. 2 and 3, J. Caplin. *Buff Cinnamon.*—1, 2, and 3, J. Caplin. *Gold-spangled Lizard.*—1, 2, and 3, T. W. Fairbrass. *Silver-spangled Lizard.*—1 and 2, T. W. Fairbrass. 3, Rev. V. Ward. *Broken Cap.*—1 and 3, T. W. Fairbrass. 2, Rev. V. Ward. *Any kind.*—1, J. Caplin. 2 and 3, J. S. West. *Oage of Six.*—1, J. S. West. Extra 1, J. Caplin. 2, J. S. West. 3, T. W. Fairbrass. *White.*—J. Caplin (2). T. W. Fairbrass. *Any variety, not high colour.*—1, W. Barnes. 2, J. S. West. 3, J. Bateman. **MULE.**—*Any kind.*—1 and 2, J. S. West. 3, — Weston. *White.*—Tappenden. **SELLING CLASS.**—1 and *White.*—J. S. West. 2 and 3, J. Caplin. **BRITISH BIRDS.**—1 and 3, T. W. Fairbrass. 2, G. Moore. **FOREIGN BIRDS.**—1, S. Priestly. 2, W. Jones. 3, J. Roberts. 4, H. G. Spain.

**JUDGES.**—**Poultry.**—Mr. Teebay. **Pigeons.**—Mr. Esquilant. **Canaries.**—Mr. Billet.

### DORKING POULTRY SHOW.

The seventeenth annual Exhibition was held at the Town Hall on the 7th inst. Dorking is thoroughly Dorking in its poultry Show; seventeen classes out of thirty were devoted to this variety. Seven classes were "open to all England." Why are the doors closed to Scotland and Ireland? Ten-guinea cups often induce the sister countries to send birds distances equal to Dorking. The Coloured classes contained a superior collection, the first cup going to a pair of old birds belonging to the Rev. E. Bartrum. The cock was slightly out of condition, and we thought the hen a little oval in the back. Second (Parlett) a good pen, but the cock a trifle coarse in comb, and we detected a corn on the left foot, which doubtless lost him the first place. In young birds Mr. Taylor was first. Cockerel very sound in feet, but we fancied he was a little up on the back; pullet moderate. Second (Burnell) a pretty cockerel, matched with the best pullet in the Show. Blue or Speckled.—Old birds moderate, young only six entries. Cup (Burnell), a good pair of chickens. We hope this cup will be continued, and that it

will induce other breeders to cultivate this most useful but neglected variety. Silver-Greys.—The entries were above the average. White, only the two first were good.

**LOCAL PRIZES.**—Here the competition was restricted to an area of twelve miles from Dorking. The Dorking classes were creditable in quality, well filled, and the prizes widely distributed enough to show that in this district a very general interest is taken in the variety that bears the name of the town.

The other classes, with one or two exceptions, contained specimens that could not have created a very favourable impression upon novices of the variety they pretended to represent. Why not widen the circle? The Town Hall is a splendid building for the purpose, Dorking well situated, and a show might be established worth a journey to see.

**POULTRY** (Open to All England).—**DORKINGS.**—Coloured.—*Cock or Hen.*—Cup, Rev. E. Bartrum. 2, F. Parlett. 3, G. Ellis. *Chickens.*—1, J. Taylor. 2, T. C. Burnell. 3, Countess of Dartmouth. *White.*—H. Lingwood. Lord Turnour. *Cuckoo or Blue-speckled.*—*Cock or Hen.*—1, R. Pittard. 2, J. H. Putney. 3, J. L. Playfoot. *Chickens.*—Cup, T. C. Burnell. 2, J. Putney. 3, W. Virgo & Son. *Silver-Grey.*—1, T. C. Burnell. 2, Countess of Dartmouth. 3, Miss Fasley. *White.*—1, Countess of Dartmouth. 2, J. Ivery & Son. **SELLING CLASS.**—**Dorkings.**—1, H. Mills. 2, R. Cheesman. 3, J. Wood.

**POULTRY** (Local Classes).—**DORKINGS.**—Coloured.—Cup, H. H. Young. 2, J. Taylor. 3, J. Ivery & Son. *Chickens.*—1, J. Taylor. 2, A. Powell. 3, G. Ellis. *Cock.*—1, J. Bateman. 2, W. F. Padwick. *Hens or Pullets.*—1, J. Taylor. 2, G. Ellis. *White.*—H. Mills. *Blue-speckled.*—1, J. H. Putney. 2, J. L. Playfoot. 3, R. Pittard. *Chickens.*—1, W. Virgo & Son. 2, R. Pittard. 3, J. H. Putney. *Cock.*—1, J. Tweed. 2, J. Ashworth. *Hens or Pullets.*—1, J. H. Putney. 2, H. H. Young. *White.*—Cup, G. Cubitt. M. P. 2, G. Allen. *Chickens.*—1 and 2, G. Allen. **BRAMA.**—*Light.*—1, J. Bradshaw. 2, Mrs. F. Budge. *Dark.*—1, Rev. W. Pearce. 2, J. Mew. **SPANISH.**—1, F. May. 2, P. Roffey. **GAME.**—1, J. Mew. 2, J. W. T. Bridge. **BANTAMS.**—1, G. Vigers. 2, J. W. Trowbridge. **HAMBURG.**—1, Miss B. Mackenzie. 2, W. Chappin. **ANY OTHER VARIETY.**—1, Rev. W. Pearce. 2, Rev. J. P. Wright. **SELLING CLASS.**—1, G. Ellis. 2, Miss E. A. Kerrieh. 3, H. Mills. **DUCKS.**—*White Aylesbury.*—1 and 2, Rev. W. Pearce. *Any other breed.*—1 and 2, J. W. Taylor. *Geese.*—1, J. W. Taylor. 2, W. F. Watson. **TURKEYS.**—1, J. Tweed. 2, J. W. Taylor.

**JUDGE.**—Mr. M. Leno.

### WATFORD POULTRY SHOW.

The annual Exhibition of poultry in connection with the West Herts Agricultural Society came off on the 11th and 12th inst. The Hall in which the Show was held is probably one of the best in the kingdom of its kind, and when lighted up at night had a brilliant appearance. The competition was confined to the county of Herts and a radius of twenty miles from Watford. The Geese and Turkeys always muster here in great force, and the Judge declared that the cup pen in the Turkey class were the best he had ever seen. There was a large entry of Dorkings, and the quality of these classes appeared to be in advance of former years. Mr. W. Tegetmeier was Judge, and his awards appeared to give satisfaction.

**POULTRY.**—**DORKINGS.**—Coloured.—1 and Cup, Rev. E. Bartrum. 2, Lord Chesham. 3, Lord Ebury. *White or Silver.*—1, C. Sneying. 2, Miss M. J. L. Smith. 3, Mrs. Hesley. **COCHINS.**—*Partridge.*—1 and Cup, Lord Chesham. 2, J. Hadley. 3, G. Bentley. *Any other variety.*—1, 2, and 3, C. A. Barnes. **BRAMA POOTRA.**—*Dark.*—1, J. Long. 2, D. Ford. 3, W. J. Jarvis. *Light.*—1 and Cup, J. Long. **GAME.**—1 and Cup, G. Bentley. 2, C. A. Barnes. 3, R. Douglas-Sharps. **HAMBURGERS.**—*Spangled.*—1, J. Long. 2, G. Bentley. 3, W. Chappin. *Pencilled.*—1, J. Long. 2, Lord Ebury. **BANTAMS.**—*Game.*—1, J. J. Long. 2, W. Boucher. W. Wilson. 3, G. Bentley. *Any other variety.*—1, Lord Chesham. **ANY OTHER BREED.**—1 and Cup, W. Fitzcock. 2, Miss M. Clutterbuck. 3, P. Clutterbuck. *Rouen.*—1, C. A. Barnes. *Any other Distinct Breed.*—1, P. Clutterbuck. 2, Lord Ebury. 3, W. J. Loyd. **GEES.**—1 and Cup, J. Thurnham. 2 and *White.*—C. A. Barnes. 3, T. Kingsley. **TURKEYS.**—*Norfolk and Cambridge.*—1 and Champion Cup, W. Field. 2, R. Dickinson. 3, Miss M. Clutterbuck. *Any other variety.*—1, Lord Chesham. 2, C. A. Barnes. 3, R. Blackwell. **SELLING CLASSES.**—*Hens.*—*Price not to exceed £1 10s.*—1, J. Hadley. 2, Rev. E. Bartrum. 3, W. J. Long. *Cock.*—*Price not to exceed £1 10s.*—1, W. J. Loyd. 2, C. Sneying. 3, G. Bentley. *Ducks.*—*Price not to exceed £1 10s.*—1, T. Kingsley. *Drake.*—*Price not to exceed £1 10s.*—1, P. Clutterbuck.

**JUDGE.**—Mr. W. Tegetmeier, Fortis Green, Finchley.

### DARLINGTON ORNITHOLOGICAL SOCIETY.

The eighth annual Exhibition of Canaries, Mules, and British and Foreign Birds (open to all England), was held in the Mechanics' Hall, Darlington, on Friday and Saturday, December 8th and 9th. The silver cup was won by J. C. Salt, Esq., of Burton, who also took a special prize as the winner of most points in classes 3, 4, 5, and 6. The other winners of special prizes were Messrs. Cleminson & Ellerton for most points in the Lizard classes; Mr. J. Thackrey, Bradford, for most points in the classes for Yorkshire birds; Messrs. Cleminson & Ellerton for most points in British Birds (17, 18, and 19); and Mr. Rutter of Sunderland, in the Belgian classes. The Show was a good one, many of the principal breeders and exhibitors competing. Besides the points being counted for the actual prizes, highly commended and commended which were liberally bestowed in most of the classes were reckoned. The general arrangements were good. The following are the prize-winners:—

**CANARIES.**—**BELGIAN.**—*Clear, Ticked, or Variegated Yellow.*—1, W. Forth. 2, J. Rutter. 3, W. Addison. *Clear, Ticked, or Variegated Buff.*—1, 2, and 3, J. Rutter. *Norwich.*—*Clear, Ticked, or Variegated Yellow.*—1, A. Adams. 2, D. Audley. 3, C. J. Salt. *Clear, Ticked, or Variegated Buff.*—1, C. J. Salt. 2, D. Audley. 3, D. Audley. *Even marked Yellow or Buff.*—1, J. Adams. 2, C. J. Salt. 3, Mackley Brothers. **CRESTED.**—1, W. Goodall. 2, Mackley Brothers. 3, W. & C. Burniston. Extra 3, C. J. Salt. **LIZARD.**—*Golden-spangled.*—1, Cleminson & Ellerton. 2, C. J. Salt. 3, T. Tenniswood. *Silver-spangled.*—1, T. Tenniswood. 2, S. Bunting. 3, Cleminson & Ellerton. *Gold or silver-spangled*

(Broken).—1 and 3 C. J. Salt. 2, T. Tenniswood. 3, S. Bunting. YORKSHIRE.—*Clear, Ticked, or Variegated Yellow*.—1, 2, and 3, J. Thackrey. *Clear, Ticked, or Variegated Buff*.—1 and 2, J. Thackrey. 3, G. Turner. CINNAMON.—*Jonque*.—1, C. J. Salt. 2, J. Adams. 3, J. Athersuch. *Buff*.—1 and 2, J. Adams. 3, Rice & Co. *GOLDFINCH MULE*.—*Any Variety except Dark*.—1 and 2, C. J. Salt. 3, J. Stevens. *Dark Jonque or Buff*.—1 and 2, C. J. Salt. 3, Mackley Brothers. *ANY OTHER VARIETY*.—1 and 2, J. Stevens. 3, J. Smeaton. *BRITISH BIRDS*.—*GOLDFINCH*.—1, W. Forth. 2, W. & C. Burniston. 3, R. Allport. *Cleminson & Ellerton*. *LINNET*.—1, G. Jobling. 2 and 3, W. Carrick. 3, Cleminson & Ellerton. *ANY OTHER VARIETY*.—1, R. Humphrey. 2 and 3, J. Lacey. 3, T. Raper. *FOREIGN BIRDS*.—1, J. Scrafton. 2, R. Pearson. 3, S. Bunting. *SELLING CLASS*.—1, Brown & Gayton. 2, Cleminson & Ellerton. 3, W. Forth.

JUDGE.—Mr. G. J. Barnesby, Derby.

### CANARY TREATMENT.

IN reply to "M. S., *Sevenoaks*," respecting his Canary with a diseased beak, Mr. Barnesby says:—

The reddish-yellow swelling on the beak (the upper mandible I presume), most likely in the first instance proceeds from a cankerous and inflammatory affection of the nostrils, which in an early stage of disease might have been, and even now may be, checked with an application of lunar caustic and lard made into an ointment, in the proportions of 4 grs. of the former to about half an ounce of the latter. It is the disease alone which brings about the irritant swelling and spongy corruption upon the beak, causing it to grow unshapely. In very advanced cases recovery is hopeless. In such instances the birds are better replaced by healthy ones; but your bird being a five-year-old is no doubt a great pet, and your wish may be that "Dickey's himself again," sooner or later.

To aid the sufferer, in the first place on every other day for a week administer inwardly one drop of castor oil, and for the same period alternate the doses of oil with the above prepared ointment, each outward dressing of which consisting of a portion about the size of a small hempead, placed on the extreme base of the bill and partly on the bird's nostril. Not unfrequently a yellowish substance, the size of a hempead, will form in or about one side of the nostril, causing much pain and difficulty of breathing. With the aid of the ointment such accumulation may often be loosened and removed, inflammation stopped, and the nostril regain its proper function. Afterwards occasionally dress the bird's beak with oil of sweet almonds, applied with a small camel's-hair brush, and at any time that the spongy accumulation may appear loose gradually remove as much as you possibly can with the aid of your thumb nail, operating tenderly.

During the period of the bird partaking of castor oil give daily a little sweetened bread and milk, and at the end of about eight days continue the usual diet of seed, omitting the rape unless scalded. Mix with the seed a pinch or two of floury brimstone (sulphur), and let the bird have a piece of salt to peck at, which is an excellent blood-purifier. No lump sugar, but let the bird amuse itself with pecking at a piece of fresh carrot occasionally placed in the wires. Bird seed should always be well sieved before giving to birds. The dust, and there is a great deal in some seeds, tends to aggravate any little affection of the nostrils, encourages asthma or wheezing, and lays the foundation of diseases which often baffle those most skilled. One point bird-keepers should never lose sight of, that of giving their pets fresh water at least once a day.

In all cases of disease cleanliness is most essential; in fact, at any time, or all times, whether a bird be ill or well, and "M. S.'s" sufferer would be much benefited and outwardly purified (considering its affliction) if it could—after the foregoing treatment, say in a fortnight—be manipulated upon as follows:—Wash the bird all over, from beak to tail, with soap and warm water of the temperature of about 95°. Mind the water is not hot. Use a partly worn-out soft shaving-brush or piece of old flannel. After well rubbing either article upon a piece of common washing soap commence operating upon your bird. After five minutes rubbing and dabbing all over the bird's feathers it will be ready for rinsing in another basin of water of equal temperature, which is necessary to remove all soap from the feathers. Have at hand a clean soft linen or cambric cloth, to absorb from the feathers as much moisture as possible. Afterwards place your prostrate bird upon a cloth on the bottom of a cage, and in about twenty minutes before a fire (not too close, mind) you will see your bird upon the perch recovering from its ablution. Whilst washing the bird hold it in your clasped hand, head upwards, securely, but not to squeeze it, and do not press it too tightly around the neck, or you will frill the feathers of the same likened to a Jacobin Pigeon. I have not space here to devote in *extenso* the *modus operandi* of bird-washing, but it is simple enough, and I say Try your hand. It will cleanse your bird from some of the corruption plaguing it. Study the few remarks I have given, and if you perform clumsily at first you will do better in future. Nothing like experience. Bird-washing is necessary in other respects than for exhibition, especially when the birds are exposed to a smoky or murky atmosphere. Nothing encourages disease more than dirt, and it is necessary that not only the birds should be kept wholesome,

but also the cages they are continually penned up in. Clean perches and grit sand are two essential requisites.

### MOVEABLE VERSUS FIXED COMBS.

HAVING endeavoured to answer some of your correspondent's Mr. Pettigrew's remarks on moveable comb hives, I will now proceed to explain, as plainly as possible, for the benefit of the novice some of the advantages of moveable over fixed combs, more particularly as regards profitable honey returns, your correspondent having already ceded their superiority for scientific and experimental purposes.

Take the case of the straw competitive hive already alluded to. An imported Italian queen was placed at its head in autumn, and continuous ample feeding was resorted to, which induced great activity, and pollen was freely carried in. The last bottle food unfortunately collapsed, but the population being so numerous, were held competent to make good all damage after a clean board had been supplied. In the early summer this hive became so listless as to call for a thorough examination of its contents, when I discovered that, owing to the above accident, the masses of maturing autumnal brood had been chilled, the combs were in a damp and moulded condition, and so far as fixism was concerned its doom was sealed. A nucleus box was at once procured and stocked with four frames of empty comb, and the queen with the remaining handful of her subjects transferred, stimulated with a little feeding. Her majesty true to the prolific instinct of her race egged rapidly, one frame was removed for queen-raising elsewhere, and a full one of ripe brood given in lieu. Then an exchange of a second took place, the nucleus by-and-by becoming so crowded that its contents had to be transferred to a Stewarton breeding box shortly thereafter; that had to be nadired with a second, and the young colony thrived so well as to be independent of autumnal feeding. In short, what stood condemned by fixism became through mobilism one of the best going colonies I now possess.

Mr. Pettigrew describes we aparians as "bee-farmers," we accept the term. Farmers have their crops to reap, so have we. A good deal depends on the staff of workers, ours fortunately are all willing and industrious hands. Your correspondent prefers the old black aborigines, we go in for the Italian creoles, they are larger, bolder, we are sorry to confess much more irascible insects than their black competitors; then comes the question of the reaper, on which all farmers, bee and otherwise, are sorely exercised. Your correspondent solves the difficulty by sticking to the old straw skep, always providing it is big enough, which we may liken to the antiquated reaping hook, while we on the other hand go in for an improved implement, the Stewarton reaper. It is a self-acting machine, and has top delivery, with its several parts all moveable for transfer or repair. I will now proceed to take a look at the working of the two, beginning with the Stewarton.

By a compartmental arrangement the harvest as rapidly as reaped is sifted, the finest portions being placed together in several sectional divisions, each subdivided into seven separate parts, so thoroughly complete that it can pass from the lip of the bee to that of the consumer without being contaminated by the touch of human hand. The shallowness of the sections admit of their more rapid completion, with the consequent advantage of realising the highest price, section after section finds its way into consumption, and nearly all being disposed of before the owner of the old tool places his first sample in, possibly as in a season such as the past, an overstocked market.

The farmer possessing the Stewarton reaper with his harvest in his pocket, before going to have a look at his neighbour over the way beginning work, must first see to his machines being properly laid past for the next season. Some of his very best are clogged with an overplus, others are going light. How is the surplus to be got rid of? A whisper from Ealing Rise says, "Sling it, can't ye?" but the "weak oats" left behind the fanners we always use for feeding purposes, and mobilism again comes to our aid. We exchange overloaded for empty combs where required, no drain on the pocket for sugar feeding, not a bee is injured, or moved from its much-loved home. Here surely is the really humane system. The rich have given of their abundance, the poor have no lack; all are benefited, the vacant cells in the one case, the needful food in the other induces in both cases to the bee farmer autumnal clutches and early spring broods. So much for mobilism. I will now take a look at fixism.

Here stand the large straw skeps in much larger numbers than before, the straw hives; and despising the principle that "union is strength," permits large working parties to split up into lesser bands, and waste both their time and store in barn-building, at the very top of the season too, and in endeavours to make up the leeway all is thrown together higgledy piggedly. And now comes the real barn work, the separation of the wheat from the chaff. And how is it to be accomplished? Only by the "killing the goose for the golden egg" system—the demolition of the stocks. The very best is invariably first singled out for destruction, the farmer carefully preserves and points

out with honest pride the premier winner. Why should the bee farmer be deprived of a similar pleasure? The bees will defend their store. How are they to begot rid of? Not by the short shrift of the brimstone pit, we live in more humane times. Capital punishment is becoming rare. In return for their earnest toil the hard sentence goes forth, "That they be drummed forth the (waxen) kingdom and banished to some Siberian chilly stock, their beloved queen there slain, and they fed on sugar and water all the days of their natural lives," to obtain the requisite number of pints of that mixture known as run honey; then follows the breaking, and bruising, and squeezing, which in mercy I will draw a veil over.

Straw hives retain a place in the more shaded nooks of my apiary solely for swarming purposes, stand related to Stewartons, somewhat after the fashion Brindley put it with regard to rivers, "their use being to feed (honey) canals." On the twenty-fourth day after emergence of prime swarm, the contents of the straw hives are cut up and fitted into frames of Stewarton colonies. How helpless fixism leaves the straw hives, and to utilise his empty brood comb at the autumnal demolition of his stocks, those combs got up at such an expeditious of store and labour to his industrious workers are good for nothing but crushing up for the melting pot. The subject might be enlarged upon, but respect must be had for your valuable space.

The finest run honey such as the bee-master would like to see gracing his table is only obtainable from supers, run contents of stock boxes and breeding skeps is best utilised for bee feeding.—A. RENFREWSHIRE BEE-KEEPER.

### MOVEABLE VERSUS FIXED COMB.

#### A VISIT TO THE APIARY OF THE RENFREWSHIRE BEE-KEEPER.

I HAVE just read with pleasure the interesting article from your correspondent "A RENFREWSHIRE BEE-KEEPER" on moveable versus fixed combs, and have a rather vivid recollection of a visit on the 6th of October, 1875, to his apiary, where I saw his competitive test hives, and can vouch for the lightness of the straw and solidity of the octagon hive, and I shall not readily attempt a similar trial unveiled.

Having been struck with the difference caused me all the more readily to accept an invitation to visit his apiary during the working season, which I did on the 1st of August, 1876, accompanied by a brother bee-keeper and a keen entomological friend. We were then introduced to a phase of apiculture of which we had previously no conception. Mr. Pettigrew talks of large hives: what would he think of seeing these octagon colonies towering to an altitude of close on 4 feet from their boards?—outgrown their covers, drawn back on floor boards to give abundance of alighting room, the freest egress and ingress, with ample ventilation afforded by three entrances in every case; the supers carefully covered round with woollen cloth, the several colonies shaded from the hot sunshine with archangel mats; the entire apiary stocked with Italians, pure-bred imported queens at the head of the swarming stocks, and their daughters mated with black drones at the head of the strong non-swarmers, the first-cross offspring being a large powerful insect. I need not go into a description of the purity and high finish of the fine super specimens harvested or of the glasses in process.

A source of special interest was a large mahogany rotating unicom observatory of original design. From the thermometer in the centre down to the minutest detail great ingenuity had been exercised to make it in every way practical and complete. It was stocked with pure-bred Italians, and was decidedly the finest thing of the kind we had ever seen. We watched with interest the movements of an exceedingly handsome picked queen, had pointed out to us how the workers did not object to pure air from below, keeping every perforation in zinc open, while to avoid a draught they had as carefully propolised up every crevice on the top. We traced the pollen-laden worker from the entrance to the cell, in which she deposited her load and departed for more; noted the numerous small orifices in many of the all-but-sealed honey cells, and were taught how the workers previously extracted before sealing up. There was left undisturbed a half-thickness of comb owing to its attachment to glass, affording a good opportunity of inspecting its central backbone and the sectional waxen divisions of each attenuated honey cell, with the markedly different shades of the several deposits. We could see in the outermost the honey-gatherer squirt her load, come in direct from the field; and found our Renfrewshire friend as sceptical of the "twice-swallowing and disgorging theory" as is your excellent contributor "B. & W."—putting it, in a word, that "seeing is believing."—R. J. BENNETT, Vice-President, Caledonian Apian Society.

### OUR LETTER BOX.

PIGEONS (A. L.).—Your black-and-white Pigeons seem to be Swallows.

BELGIAN CANARY (G. B. T.).—So much hempsed with sugar, particularly the latter, would tend to do your Belgian cock Canary more harm than good;

in fact, sugar is injurious to all kinds of Canaries, and we advise you to discontinue the use of it. Let a small piece of salt, fixed betwixt the wires, take the place of the sugar. Continue the hempsed sparingly during the winter months, for as the bird has been so liberally treated it would be further impaired were you to entirely take away the hempsed. Your Canary may possibly regain its musical powers after the turn of Christmas or as spring approaches, more especially if it has the company of a hen bird placed in a separate cage a short distance apart. Mix with the Canary seed some lettuce and cress seeds, and treat the bird occasionally with a small piece of biscuit over which half a dozen drops of sherry have been poured. In early spring some young fresh dandelion roots will benefit its health.—G. J. B.

STEWARTON HIVE (J. H. Etridge).—"RENFREWSHIRE BEE-KEEPER" writes:—"Mr. James Allan, cabinet-maker, Stewarton, Ayrshire, makes my hives, and will doubtless furnish estimate cost and carriage on application. The Stewarton breeding and honey boxes measure 14 by 14 inches, and are 7 inches deep for former and 4 for latter. For a beginner two 9-inch-deep boxes might do well for stocks' breeding space. Like all light-wooded hives they must have external protection. Mine stand in octagon covers 18 by 18 inches inside measure, body and top both moveable, the latter covered with thin zinc, with ornamental vase on the top, and well painted stone colour. These rest on mahogany boards made from old dining-table tops. Woodbury hives are of square form, and having crown boards are not well adapted for storing in the Stewarton. Communication can be given or shut off by means of the slides without disturbing the boxes. My bees have a little heather honey from some hills half to a mile distant. Independence of spring feeding is due to the weight of surplus store left in autumn of such strong non-swarming colonies."

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1876. Dec.	Barome- ter at top of day and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
We. 6	29.059	deg.	deg.	S.W.	deg.	deg.	deg.	deg.	In.		
Th. 7	29.157	47.0	46.3	S.	45.5	51.7	44.6	51.1	39.7	0.810	
Fri. 8	29.512	47.4	46.3	N.	46.6	48.8	46.1	55.1	44.6	—	
Sat. 9	30.180	36.3	36.3	W.	45.0	47.4	34.4	68.8	30.3	—	
Sun. 10	30.188	43.0	41.3	W.	43.0	46.8	36.2	49.8	34.2	—	
Mo. 11	30.130	43.0	41.0	S.S.W.	43.8	46.4	41.0	47.3	39.3	—	
Tu. 12	29.730	43.2	41.8	S.	44.0	47.0	42.5	47.0	39.0	0.262	
Means.	29.701	43.5	42.5		44.9	48.7	41.8	55.6	38.1	0.632	

### REMARKS.

- 6th.—Fine morning and pleasant day, though sometimes rather cloudy.  
 7th.—Rainy morning, and showers at times all day, sometimes heavy ones.  
 8th.—Fair but rather dark morning; rain before 10 A.M., and showery all the rest of the day.  
 9th.—Slight frost in the morning; a fine pleasant day, rather less so at night.  
 10th.—Fair but hazy early, and rather dull all day.  
 11th.—Very foggy, dull, and dark all the fore part of the day, and slight rain towards night.  
 12th.—Fair but hazy and dark early, better before 10 A.M.; rain commenced before 11, slightly at first, but all the remainder of the day was rainy; but fine at night.  
 A gloomy week, and somewhat colder than the previous one.—G. J. SYMONS.

### COVENT GARDEN MARKET.—DECEMBER 13.

BUSINESS remains quiet in both fruit and vegetables, and trade is restricted owing to the almost continuous wet weather which has lately prevailed.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	1 6 to 5 0	Nectarines.....	dozen	0 0 to 0 6
Apricots.....	dozen	0 0 0 0	Oranges.....	100	8 0 12 0
Chestnuts.....	bushel	0 0 0 0	Peaches.....	dozen	0 0 0 0
Currants.....	½ sieve	0 0 0 0	Pears, kitchen.....	dozen	1 0 3 0
Black.....	½ do.	0 0 0 0	dessert.....	dozen	2 0 9 0
Fire.....	dozen	0 0 0 0	Pine Apples.....	lb.	1 6 4 0
Filberts.....	lb.	0 0 0 0	Plums.....	½ sieve	0 0 0 0
Cobs.....	lb.	1 0 1 6	Quinces.....	bushel	0 0 0 0
Gooseberries.....	quart	0 0 0 0	Raspberries.....	lb.	0 0 0 0
Grapes, hothouse.....	lb.	2 0 8 0	Strawberries.....	lb.	0 0 0 0
Lemons.....	100	6 0 10 0	Walnuts.....	bushel	5 0 8 0
Melons.....	each	1 0 8 0	ditto.....	100	1 6 2 0

#### VEGETABLES.

		s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	0	0 to 0	Leeks.....	bunch	0 4 to 0
Asparagus.....	100	0	0 0	Mushrooms.....	pottle	1 6 2 0
French.....	bundle	0	0 0	Mustard & Cress	packet	0 2 0 0
Beans, Kidney.....	100	0	1 6	Onions.....	bushel	0 0 5 0
Beet, Red.....	dozen	1 6	8 0	pickling.....	quart	0 4 0 0
Broccoli.....	bundle	0	1 6	Parsley.... doz. bunches	2	0 4 0
Brussels Sprouts.....	½ sieve	8	0 4	Parsnips.....	dozen	0 0 0 0
Cabbage.....	dozen	1	0 2	Peas.....	quart	0 0 0 0
Carrots.....	bunch	0 4	0 8	Potatoes.....	bushel	2 6 4 6
Capsicums.....	10	1 6	2 0	Kidney.....	do.	8 0 5 0
Cauliflower.....	dozen	8	0 6	Radishes..... doz. bunches	1	0 1 6
Celery.....	bundle	1 6	2 0	Rhubarb.....	bundle	0 8 0 9
Coleworts..... doz. bunches	2	0 4	0	Salsafy.....	bundle	0 9 1 0
Cucumbers.....	each	0 6	1 0	Scorzoneria.....	bundle	1 0 0 0
Endive.....	dozen	1	0 2	Seakale.....	basket	1 6 8 0
Fennel.....	bunch	0 8	0 0	Shallots.....	lb.	0 3 0 6
Garlic.....	lb.	0 6	0 0	Spinach.....	bushel	1 6 2 0
Herbs.....	bunch	0 0	0 0	Tomatoes..... ½ sieve	1	0 0 0
Horse-radish.....	bundle	4	0 0	Turnips.....	bunch	0 4 0 6
Lettuce.....	dozen	0 2	6 0	Vegetable Marrows.....	0	0 0 0

## WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 21—27, 1876.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
21	Th	ST. THOMAS; Linnean Society, 8 P.M. Queckett (Microscopical) Club at 8 P.M.	44.1	34.0	39.0	8 6	3 51	11 19	9 43	7	1 23	556				
22	F		45.0	32.5	38.7	8 6	3 51	11 30	10 54	8	0 53	557				
23	S	4 SUNDAY IN ADVENT. CHRISTMAS DAY.	44.1	31.7	37.9	8 7	3 52	11 40	morn.	9	0 43	558				
24	SUN		41.0	31.3	37.6	8 8	3 53	11 50	0 7	10	before	559				
25	M	BANK HOLIDAY.	43.4	29.4	36.4	8 8	3 53	0 2	1 23	11	0 37	560				
26	Tu		43.2	31.4	37.8	8 8	3 54	0 17	2 42	12	1 6	561				
27	W		43.0	29.7	36.4	8 8	3 55	0 33	4 7	13	1 36	562				

From observations taken near London during forty-three years, the average day temperature of the week is 41.2°; and its night temperature 31.4°.

## GARDEN IVIES, THEIR USES AND CULTIVATION.



**G**ARDEN Ivies are more useful than the little attention paid to them would lead any one to suppose. The number of their varieties would vie with many of our florists' flowers, and I think a good collection of Ivies to be no small addition to any garden.

"A rare old plant is the Ivy green," says Dickens, and such indeed it is; for many are the fine old ruins and buildings that we see covered with its verdant foliage always pleasing and attractive. The chief characteristic of Ivy is that of a climber, although it may be grown in a variety of other ways, which I shall endeavour to notice, affording also some hints relative to its cultivation and management under its different forms of growth.

Ivy will climb as long as it has anything to adhere to, but when it has reached the summit of its support and has nothing to cling to its nature changes; it ceases to emit aerial roots or clingers, and throws out horizontal branches which terminate in flowers and fruit. The time of flowering is September and October, and the berries ripen in early spring, when they look very beautiful as they hang in black clusters. One characteristic of the Ivy is this: If growing up a wall or old building and its main stem becomes severed from the ground it will still live by reason of its aerial roots adhering firmly and feeding on the substance to which they cling; but if growing up a living tree and it becomes severed from the ground it may live for a time, but will not thrive if compelled to derive support from the bark of the tree alone. I believe Ivy to be hurtful to trees, for when once it obtains the mastery over them it checks the flow of sap in the bark, deprives the trunk of light and air, and decay of the tree is the result. The trees it seems to favour most are the Oak and the Elm. In the grounds of Wimbledon House there is a fine old pollard Oak grandly covered with Ivy; with the exception of a small branch the Oak is quite dead, having become completely smothered by this evergreen marauder.

Some people affirm that Ivy is hurtful to buildings; such may be the case where in the course of years its aerial roots have penetrated the brickwork and loosened it. For instance, I recently saw an account that the walls of Arundel Castle were threatened with destruction through the fissures in them caused by this means; the evil was checked and the masonry preserved by pulling the Ivy down. Generally, however, it is a protection to a building by excluding wet, and it also holds many a ruin together.

The uses of the Ivy are many—namely, protection to buildings, food for cattle; the flowers being rich in honey provide food also for bees and numberless insects, and the berries are food for birds. In the garden it is employed as coverings for walls, for decorating the flower garden and conservatory during winter, as edgings for beds, carpetings under trees, and especially for embel-

lishing churches and rooms at Christmas-tide. If grown in pots and plunged in beds with a piece of crook under the pots to keep out the worms specimen Ivies look well in the flower garden during winter when mixed with a few Yews and Hollies. When many shrubs are bare and leafless I think such specimens are a great means of cheering the dreary aspect of the winter months.

The Ivy may be propagated by seeds, cuttings, layers, and grafting. When the seeds are ripe they may be gathered and sown thickly in a bed of sandy soil. Keep the ground clear of weeds. When the seedlings are of sufficient size plant them in rows in a nursery bed, and after they are strong enough plant them where required for permanent use or effect. Variegated kinds are rarely raised from seed, but are sports from the green varieties. The sports may be propagated by taking off a young shoot 4 inches long, with some green in the leaf, and inserting under hand-glasses in sandy soil.

Cuttings may be quickly struck by taking young shoots from a wall, and inserting them in pots or in the ground; they seldom fail to root if put in in June or July. Layers may be obtained by pegging-down long shoots on any damp soil; they root quickly in old cocoa-nut refuse, and may be multiplied to any extent. Or another way is, in July procure long cuttings, and instead of putting them upright in the pots peg them down firmly; these will root at each joint, and as many plants can be made as desirable. Grafting is performed in nurseries, therefore I shall not say anything on that mode of increase.

The Ivy will grow in any soil, good garden ground suiting it very well when planted out; but for growing in pots it requires good loam, manure, and leaf soil, especially if it is to remain in the pots for a great length of time. The large-leaved green and free-growing varieties thrive in a moist soil, but the variegated kinds require a poorer soil, so as to retain their rich colours, otherwise they will be liable to revert to their normal colour—green.

If good variegated specimens are required the soil suitable for them is a light loam mixed with old broken brick rubbish. They should in all respects be treated as hardy plants and be given every exposure to the weather. Different aspects exert considerable influence on colour; dark rich shades are obtained by exposure on a damp north wall, while the lighter-coloured blotches are clearer when fully exposed to light; but in all cases shelter and shade promote free growth and bring out rich green hues.

The best Ivies for walls are the quick-growing large-leaved sorts—namely, *Hedera canariensis*, *H. algeriensis*, *H. Roegneriana*, and *H. dentata*. The common English Ivy (*Hedera Helix*) looks neat and clings closely, but is a slower grower than those that I have named. The variegated kinds look well on walls also. When Ivy is to be planted for covering a wall strong plants should be obtained, and planted in April in deeply-dug ground, watering the plants and nailing the shoots until they attach themselves to the masonry, when they will require no further attention beyond securing stray loose shoots. When thoroughly established all the leaves and lateral



may be cut back close to the stems annually in March or April, when young leaves will speedily be produced and have a neat and pleasing appearance all the season.

Ivy may be grown as standards, bushes, pyramids, and "umbrellas." The vigorous green-leaved kinds make good standards. Strike the cuttings in pots in July or August, and keep them in a cold frame during winter. In April pick out those with straight leaders and plant them out in well-manured soil, keep them trained to stakes, and in July pinch the side shoots in to two or three leaves; the next season cut the leader back to the height required for the standard, preserve the side growths for forming the head, and train them out so as to keep vigour in them, but pinch the side shoots so as to prevent them taking the lead and depriving the head of support; the next season cut the leaders back to three buds. By following this treatment for about four years good specimens will be established ready to be planted for ornamentation on lawns or in shrubbery borders. After so planted out remove the side shoots from the stem a few at a time, commencing at the bottom, when clean stems will be produced, and the heads can be trained to any shape required, or be left to flower and fruit in their own wild way.

Pyramids are easily formed by inserting a few stakes in the pots, and taking the side shoots round the stakes, which will soon be furnished, and in the autumn, after growth is finished, tying the stakes firmly together at the top. If the plants have been kept growing freely they will be of good size to be effective the second year, and may be kept in the same pots for several years, provided the soil is good loam and manure. During the summer plunge the pots in old leaves or cocoa-nut refuse, and keep the plants well watered. Plants so treated make good specimens either for flower beds, conservatories, corridors, or rooms during the winter months. "Umbrellas" may be formed by taking a shoot straight up and training it out on a head of wirework until the outline is covered, then pinching the side shoots so as to form the head into a dense mass of foliage. The side shoots must afterwards be removed from the stem, as previously stated. This style is useful for various purposes of decoration.

Bushes can be grown in pots of either the climbing or fruiting varieties. I have seen the yellow-berried variety (*H. chrysocarpa*) look beautiful in winter with its bright berries and green foliage. It takes time to grow good bush specimens. In all respects they require the same treatment as the others, and should not be pruned unless a strong shoot push out beyond the rest. All fruiting varieties are well adapted for bushes, as they require no training, and are useful in the flower garden during winter.

The following are some of the varieties I am acquainted with, and they consist of the largest and smallest leaved kinds in cultivation—namely, *H. canariensis*, *H. algeriensis*, *H. dentata*, *H. Rœgnieriana*, *H. digitata*, *H. digitata nova*, *H. chrysocarpa*, *H. Dondieriensis* (minima), *H. maculata*, *H. elegantissima*, *H. sagittifolia*, *H. taurica*, *H. Caenwoodiana*, *H. palmata*, *H. chrysophylla*, and *H. elegantissima marginata*.—ALFRED ALDERMAN.—(Read before the Wimbledon Gardeners' Improvement Society.)

## A GARDEN OF HARDY FLOWERS.—No. 4.

### PLANTS WITH A HISTORY.

How to plant a garden to ensure a maximum of pleasure with a minimum of future trouble. This was the gist of "IGNORAMUS'S" appeal, and I am trying to show how it may be done; but in doing so I must be careful not to mislead my amateur friends. Gardens are perhaps especially subject to the mutation of time, and the "once for all" system is applicable to very few gardening operations. It is true that much labour and expense may be avoided by planting hardy flowers; but weeds will grow, the flowers become crowded, blossom and foliage perish and become unsightly, "change and decay" are ever going on, and therefore for a garden of any kind to be kept in good order a constant and daily supervision must be maintained, except perhaps just in midwinter.

Now, do not turn away with the idea that if you follow me there will be nothing for it but to have professional assistance during the greater part of the year, for I certainly do not mean to advise such a course. If the owners of small gardens wish to derive much pleasure from them, hired help, except for the more laborious work, must be dispensed with. Spend part of every day in your garden, even if it be but a brief hour. Procure as many of the plants as you can yourself, plant them

with your own hands, and cherish them. Avail yourself of every trip or tour countrywards to enrich your store, and your garden will constantly grow in interest as well as in beauty; in interest especially, because its occupants—the offspring of your own exertions, either by propagation or collection—will possess a charm altogether distinct and superior to that of plants planted or cultivated by hiring hands. They will speak to you in a language understood by you alone, recalling to memory many a bright hour of your life, incidents of travel, cherished acts of friendship, scenes that you have visited "long, long ago." Do my readers yet understand what is meant by "plants with a history?" Do they recognise the fact that by devoting a little of their own superfluous energy to their gardens they may not only have the enjoyment of healthy recreation—invaluable at the moment, but secure a fund of future enjoyment, from which they may draw largely without any risk of exhausting the source of pleasure so pure, and so unselfish withal? "I found that Parsley Fern on a mountain in Westmoreland." "These tufts of Saxifraga we brought from the ruins of a Pictish fort in the Isle of Skye." "That *Silene maritima* was pulled off some rocks at Torquay by J—." "I brought those Maidenhair Ferns and the *Coronilla* from Lecce, and we found these *Cyclamens* on Monte Campione." Such are a few of the remarks one hears made of "plants with a history," often followed by anecdotes—incidents of the road or descriptions of scenery.

Many such anecdotes could I repeat were my object simply to amuse. One of them is worthy of a place here as serving to enforce my teaching. Walking round a garden a short time ago, which was literally crowded with "plants with a history," I paused to examine a curious and uncommon form of the familiar Heart's-tongue Fern. The plant was a fine one, and had a special corner devoted exclusively to it. "Ah!" said its owner, "that is a great treasure, and I got it in a curious manner. I was shooting in Ireland, and shot a snipe which fell right into this Fern. I saw at a glance that it was a rarity, managed to pull it up, and went off with the snipe in one pocket and the Fern in another." There, "IGNORAMUS," that is the spirit with which real lovers of a garden are imbued. Cultivate it, and you will find that life has one more pleasure worthy of the name, that gardening is not so very difficult when you throw your heart into the work, and that a garden tended in the manner in which I am trying to aid you to tend yours is about the nearest approach to the "philosopher's stone" that has been or it is likely will be discovered. In the garden you will always find food for the mind as well as for the body. Cherish, then, your garden, and it will become a veritable treasure-house of "rich memories," suggestive of kindly thoughts and noble aspirations.

Christmas-tide is near. Many gardens will aid in making it joyous, and that many more may have a similar result before the close of the "next new year" is the "Christmas greeting" of—EDWARD LUCKHURST.

## GRAPE VINE MILDEW.

ON account of a pretty general prevalence of mildew on Vines during the past season the various popular remedies have obtained a considerable amount of attention, and more than usual has been written about them. I have attended to the culture of the Vine for about eighteen years, and never saw mildew on my Vines until the past summer, and as my treatment of it was a complete success I gladly avail myself of your pages to make it known.

In July the pest made its appearance in a span-roofed house 80 feet long, planted principally with Lady Downe's. The Vines first attacked, however, were two Muscat Hamburgs, but the disease spread with considerable rapidity throughout the house. Sulphur was recommended to me as the only antidote, which I applied to the hot-water pipes in a liquid state, and as a powder to the bunches and foliage most affected. I continued these applications for four or five weeks without making any appreciable improvement in the condition of the Vines.

By this time I had begun to fear that the whole crop would be sacrificed or at least materially injured, when I had a remedy brought under my notice which had been successfully tried by Mr. Harrison, of Darlington, for Roses. It is advertised as "Silk Cocoon Liquid Manure," and is from the silk mills of Messrs. Lister & Co., Manningham near Bradford, and was sold at that time by their agent, Mr. John Harrison of Wharfedale near Richmond in Yorkshire, who is now dead, but I believe

the agency is still held by his widow. I resolved to try it, and on one application cleared the house of the pest without injury to the fruit, which had already commenced colouring. I may state that the seedling bunch of Grapes which was awarded a first-class certificate by the Royal Horticultural Society on the 6th was one of the bunches so operated on, and what I look upon as remarkable is that in a very few days after the liquid was applied the Vines began to assume a fine healthy appearance, which continued during the whole of the season.

In a Hamburgh house 40 feet long the disease made its appearance as the fruit was ripening, and I decided not to apply the "coccin liquid" until the fruit was cut, by which time the disease had spread very generally throughout the house, but I found that one application was quite as effectual in removing it as in the former case. I intend using it also as a winter dressing for the Vines, and believe it will prove a most valuable preventive as well as cure for mildew.—D. P. BELL.

#### CULTURE OF POINSETTIA PULCHERRIMA.

This plant is now very extensively cultivated, and well it deserves to be, as there are few subjects more showy and better adapted for decorative purposes at this season of the year. The system of culture I have adopted is different from that of many cultivators, but as I have been successful with it for many years, I thought a few remarks on culture would be useful.

The plant is a native of Mexico, having been discovered in that country by Mr. Poinsett in 1828, and whether different varieties of the species were sent over, or whether the difference in cultivation has the effect of improving the quality of the floral bracts I know not, but I have certainly not seen better or more brilliant specimens anywhere than have been produced by the culture here described.

When the flowering period is over the plants are gradually dried off, and the pots laid on their sides underneath the stage in a cool stove, where they remain until the end of March. In that month the young growths of last season are cut down to within three or four eyes from the base of the growth. No water is applied to the roots until the wounds are dried up, but the pots are removed to the greenhouse, where they are placed on the stage near the glass, and there they remain, water being applied to the roots when it is required, but no more than is necessary to maintain a healthy growth. They do not require nearly so much water here as they would in the plant stove, where the heat would be 55° or 60° at night. When the buds have started about half an inch the plants must be turned out of the pots and repotted; and to grow this plant well it requires a rich compost. The following answers admirably: rich turfy loam five parts, one part decayed stable manure, one part leaf soil, and an 8-inch potful of crushed bones to each barrowload of the compost; a little sand is necessary if the loam is of a close texture. Drain the pots well, and place over the broken potsherds some of the fibrous part of the loam from which the clayey particles have been well shaken out; if the finer portion of the compost becomes mixed with the drainage the plants will not retain their leaves to the end of the season. After potting, the plants should be kept near the glass and be fully exposed to sunshine, and the house be freely aired; this will cause the growths to come strong and short-jointed, the leaves to be thick and leathery, and the wood will be of a reddish tint. When the pots are filled with roots, which will be by the middle of May, the plants may be repotted in similar compost to the above, and by the middle of June they may be removed to a position out of doors where they are partially shaded from the sun. I have found they do best on the north or west side of a low house where the tops of the plants are exposed to the sun and the lower portion sheltered from its rays. If they are exposed to the direct force of a strong gale of wind many of the leaves are injured. In this position they must not at any time suffer by want of water at the roots, as this would also cause some of the leaves to drop off, and the object of the cultivator is to see that this does not occur, as the loss of the lower or any leaves very much impairs the beauty of the plants.

About the middle of September we remove the plants to a house where there is a night temperature of 50° or 55°, and this ought not to be exceeded until the floral bracts begin forming, when the night temperature should be 65° until they are fully developed. I ought to mention that as soon as the plants are taken indoors they may be well watered with manure water; every alternate watering may be of guano water. This

deepens the green of the stem and leaves, and adds brilliancy to the floral bracts.

Propagation is effected by cutting the stem into short lengths and inserting the eyes in the same way as Vine eyes; they thus grow as freely as Vines, requiring very similar treatment. Another method equally simple is this: When the young growths are 3 or 4 inches in length it will often be found that there are more on the plants than ought to be allowed to remain. Let the surplus growths be taken off with heels and be placed in a gentle bottom heat under a bell-glass, where they will, if shaded from the sun, very soon strike out roots. If each cutting is potted in sandy loam in a thumb pot the plants will not suffer anything when they are repotted. In three weeks from the time of putting in the cuttings the plants will be ready to be repotted. After being established they may gradually be inured to a cooler atmosphere, and be ultimately placed out of doors and be treated as has been recommended for the established plants.

The Poinsettia does not require very much pot room; the summer-struck cuttings may be placed in pots 4 inches in diameter, or three may be potted in 6-inch pots. We have some in 6-inch pots from cuttings struck in June; each pot contains three plants, which stand 15 inches from the surface of the pots, and the floral bracts are as much as 15 inches across.

There are several varieties, some of them from seeds ripened in this country. The Messrs. Veitch of Chelsea exhibited a distinct form at the December Committee meeting at South Kensington, and the same enterprising firm have this year introduced the marvellous and distinct variety *P. pulcherrima plenissima*. I have grown this variety during the present season, but the plants were not obtained until it was too late to put them under the above system of cultivation, and they were not placed out of doors at all. This variety seems to be later than the old sort, and the bracts take a much longer time to develop themselves; so that I shall not be able to report fully on this variety for at least six weeks, for it will be that time before our earliest specimen has attained to its full development.—J. DOUGLAS.

[We have seen Poinsettias which have been grown by Mr. Douglas, and have noted their superiority.—EDS.]

#### THE RUSSIAN TRANSPARENT APPLE.

UNDER the heading of "Greasy Coat" Apple a discussion was lately conducted in this Journal, and the Transparent Codlin was then noticed as possibly being the variety referred to by "J. J., Lancashire." In that discussion I mentioned the "Transparent" as having (in common with many others) a greasy skin, but I more particularly noticed it as being a valuable Apple—a certain bearer, and the tree a "rent-paying tree" when grown in cottage gardens. I had the best proof for that estimate, for I was intimately connected with a fine standard tree which for a great number of years unfailingly contributed materially in defraying the rent of the garden in which it grew. I have since learned something of the history of this valuable Apple. A farmer in Lincolnshire (Mr. Beulah), who has a great knowledge of hardy fruits, and cultivates a large number of new and old varieties, has favoured me with information which he has special reason to consider as being perfectly trustworthy and reliable.

In the first place Mr. Beulah thinks that the "Transparent" which I referred to on page 298 (and of which he and myself both think so highly), is not in commerce further than possibly having a place in a few small local nurseries in the district of its introduction. The history of this Apple is as follows:—

During the occupation of the district around Moscow by the invading army of the first Napoleon General Boucherett, the representative of an old Lincolnshire family still existing in the county, noticed this Apple growing freely in Russia, and being attracted by its fine appearance and presumptive hardiness, considered that it would be a valuable variety for English gardens. A large number of grafts were therefore brought by the General to Lincolnshire, and thus the Russian Transparent obtained a footing on our shores, and has proved in the locality of its introduction one of the most profitable of our fruits. Mr. Beulah's authority for this statement is that one of his relatives was in the suite of the General, and has left it on record that he had a distinct recollection of the facts referred to, and of the arrival of the "faggot" of grafts at Willingham House.

The spread of this Apple in north Lincolnshire is attribut-

able, in Mr. Beaulah's opinion, to a local nurseryman, a late Mr. Brown of Barton-on-Humber. Mr. Brown has been dead many years, but his name is still remembered and his fame is still existent as a man who had a great knowledge of fruits, and distributed more good varieties in north Lincolnshire than any other grower. In all probability Mr. Brown on seeing the Russian Apple recognised its value, procured grafts of it, and eventually added it to his small but good collection of Apples. Mr. Brown's catalogues are still extant. The list of Apples numbers only sixteen, and the Russian Transparent is therein included.

I have visited many gardens and nurseries in many counties, but have never seen this Apple except in north Lincolnshire. I have seen many trees of it there, but I cannot remember the fine specimen which I have so many scores of times climbed and robbed ever failing to supply a valuable crop of fruit. Mr. Beaulah finds the Transparent equally constant now, and one of the best, if not the most profitable, of all the sorts in his well-chosen collection. The inclement weather of the past spring destroyed the blossom of all the Apples in his garden except this and the Cockpit, and he has for some time past been selling his Russian Transparents readily at 3s. per stone of 14 lbs.

The tree forms a noble head and produces pendulous branches. Its blossom is very large, white, and handsome, and does not open—and this constitutes its great value—for fully a week after the average period of blossoming of other varieties. Dr. Hogg has examined specimens of the fruit, and has favoured me with the following description:—"Fruit large, roundish, somewhat oblate, narrowing towards the crown, where it terminates in several prominent ridges, occasioned by the rather prominent angles on the sides, flat at the base. Skin smooth and shining, grass green, becoming yellowish green as it ripens, strewed with large russet dots, and containing a few pearly specks. Eye closed, with connivent segments, set in a narrow and puckered or angular basin; stamens median; tube short funnel-shaped; seat of the styles conical, broad at the base; cells of the core closed. Stalk medium, inserted in a very wide funnel-shaped cavity. Flesh very tender and juicy, with a pleasant subacid flavour, and a peculiar and agreeable aroma." I am convinced that this is one of the most valuable culinary Apples in cultivation, and is worthy of more than local fame."

If I have omitted any particulars respecting it which are worthy of being known, perhaps Mr. Beaulah, who is a Journal reader, will favour by supplying them. "J. J. Lancashire," will also oblige by sending to me his name and address through the Editors of the *Journal of Horticulture*.—J., Lincolnshire.

### PREPARING POTATOES FOR PLANTING.

No practice in Potato culture is more important than a careful preparation of the sets. At first sight this may not be regarded as a cultural point, but in reality it is one of considerable moment. It should be remembered that the Potato may be cultivated when it is out of the soil as advantageously as when growing in it. If a plot of ground is planted with Potatoes, and the crop is left untended and becomes choked with weeds, we do not call that crop cultivated, but neglected. Similarly when Potatoes which are intended for planting are heedlessly left in heaps to be choked with their own growth they are also neglected; but if their growth is conserved and assisted from the earliest stages onward, that attention must rightly be regarded as cultivation, for it adds considerably to the yield and value of the crops.

In order to have the best results in Potato-growing cultivation must commence several weeks, even months, before the sets are planted in the garden. In many gardens only early Potatoes are grown, the main crops being provided by field culture. It is to garden Potatoes, therefore, to which I am now alluding, limiting my remarks to the earliest sorts—sorts which have a post of honour in being grown on the cherished "south border." The ground space on this border is necessarily limited, and every crop is consequently desired to be in the fullest manner productive, including the crop of Potatoes, which is one of the most important crops of the season.

Advice is occasionally given as to the best time for planting Potatoes, also as to the size of tubers best for sets and the manure which is the most suitable for the crop. That advice may be, and has been, good in itself, but I assert with that confidence which is warranted by experience that neither the time of planting, size of sets, nor choice of manure is so im-

portant as the preparation of the tubers—in other words, the cultivation of the Potato when out of the ground.

That cultivation must begin now. Not one more day's delay should willingly be permitted. The growth of early Potatoes has already commenced; do not neglect that growth, but assist it—cultivate it. If the tubers are covered with straw and soil—graved—young growth will now be active, for the weather is mild, and for some time the temperature has been high for the season of the year. Open the "graves" and remove the tubers required for planting, and place them thinly in a light position, so that their growth may be conserved and directed to a good purpose instead of being wasted in the dark regions of the "grave." If the tubers have been stored in boxes or hampers, placed in dark sheds, empty them at once and place the tubers thinly in a place where they can have light. Even if they are placed thinly in a dark place their growth will not be useful growth; it will be white and wiry, and more likely than not to be broken or injured when placed in the soil.

It should be remembered that Potatoes will produce growths of greater length in a dark place, even it is cool, than they will in a light place if it is warm, but the growth produced under the influence of light is a certain gain to the future crop, while that produced in darkness is a certain loss if the growth proceeds far. The growth of a Potato in a light place is stout and firm and cannot be injured or knocked off by any fair or ordinary means, but the growth produced in a dark place is liable to destruction, either by removal of the tubers before planting or by the pressure of the soil after they have been planted.

If anyone desires to note the advantage of careful preparation of the sets before planting them, let him take half a dozen tubers which have made their growth under the influence of light. The growth on each set should be half an inch in length, green, and stout as the tip of one's little finger. It will adhere to the tuber firmly, so firmly that it cannot be severed from it without considerable force; the growth will also be studded with rootlets at its base, and which will rest firmly on the parent tuber. Let him also take another half-dozen tubers which have not been prepared, but which have produced as best they could a cluster of white thin appendages which are broken with the slightest touch. Let him plant these two half-dozen in pots, and place them in a frame or house for the purpose of producing an early crop. He will find that the produce from the prepared tubers will be of double the value of that of the unprepared tubers, and the former will also be ready for use much sooner than the latter. The advantages of preparing the sets is equally striking in outdoor cultivation, and one peck of tubers well prepared will give a better return than will two pecks the tubers of which have received no care previous to planting them; the gain thus resulting from careful and good cultivation out of the ground is effected by a direct and important saving of land, manure, labour, and seed tubers. That is not deducible by logic merely, or is a "pretty theory looking well on paper," but is the result of careful experiment and practice, as plain and actual as even the practical Mr. W. Taylor could desire. Indeed, I should not be surprised if that cultivator has not himself proved it.

I will now go a step further, and assert without any reservation that tubers not much larger than walnuts will, if properly prepared, produce a better yield than will other tubers of three times the size which have received no preparation. I am warranted even in going further than that, for I have proved conclusively that if a good-sized tuber is cut in halves and both are well prepared, that either of the halves will produce a better return than will one large whole tuber that has received no attention in preserving and assisting its early growth when out of the ground.

All Potatoes intended for producing the earliest crops out of doors should now be placed closely together, with their growing ends upwards in a light position, and in a place more or less warm according to the backwardness of the growth and of the amount of light to which the sets are exposed. In a very light place the tubers push growth slowly, even if the temperature is high, while in a semi-dark place they grow rapidly in a moderate temperature. When thus placed the tubers take up but little room, and those who have not adopted the plan will be surprised how small is the surface occupied by a peck of kidney-shaped Potatoes when closely packed on their ends. By thus packing them only the main eyes will elongate, the side eyes remaining nearly dormant, and thus very vigorous stems are provided which are essential for producing a perfect crop. If only a very few tubers are required in the best condi-

tion they should be packed in leaf soil and be kept moist by syringing them occasionally, yet they grow quite freely without any soil.

It is most important that Potatoes for planting should be carefully prepared, for if neglected in the early stages of their growth when out of the ground, no after care, no mode of planting, no sort of soil, and no additions of manure can compensate for the neglect, and can produce the best possible crop at the earliest possible period.—A NORTHERN GARDENER.

### BUPLEURUM FRUTICOSUM.

THIS is said to have been introduced to this country about 1596. From that time to the present one would have thought that it would have been met with almost everywhere, but it appears to have found little favour in public estimation: perhaps it is



Fig. 76.—*Bupleurum fruticosum*.

little known. It is a charming umbelliferous dwarf evergreen shrub, having fine glaucous shining foliage, which makes it very desirable in a choice selection of flowering shrubs, and its umbels of pretty yellow flowers give a charm to it during the summer months. It is worthy of a place in shrubbery borders, being of dwarf habit, and with a little care may be made an object of great beauty. It requires an open and moderately dry situation. It may be increased by cuttings of half-ripened shoots inserted in well-drained pots filled with very sandy soil, plunging the pots in sand or ashes in a cold pit or frame. This shrub might possibly be turned to good account for indoor decorative purposes.—N.

### CARROT GROWING.

I, LAST winter, trenched a small piece of ground where formerly nothing but rushes were produced. Throughout the early part of the year it was frequently stirred up and broken with a five-tined fork, at the same time mixing in a good quantity of soot, guano and sand. I added the sand to make the soil work better, it being a wet spongy peat. In April the seed was sown, and I must say that I have never seen a better crop of Carrots.

I write this to show that Carrots can be grown on what I may term waste land, where scarcely anything else will succeed. In this country (Dumfries-shire), there are thousands of acres of waste land, which if cultivated would yield magnificent crops of this useful esculent, at the least worth £40 or £50 per acre. I should say that an acre of Carrots similar to those I lifted a few days since would in the market be worth £70.—JAMES DICKSON.

### THE ROSE CONFERENCE.

THE queen of flowers has for so long a time been a speciality of the Journal, that it was natural that our "most potent, grave, and reverend seigneurs" should have desired to give its readers a report of a meeting which some of us believe to be the most important one that has ever been held in connection with our cherished flower, and I am sure we all feel indebted to them for the full account that was given of it in last week's number. I know under what difficulties the reporter laboured, and I only wonder how he could have managed to be so full and generally accurate; but as in a meeting like that, where there are many speakers, there is always a difficulty in ascertaining the exact details, and I have only to refer to a few corrections. The first resolution that was passed was "That a National Rose Society be formed." There was no society to revive, as none had ever existed, although some confusion existed in the minds of some present on this point. The second resolution was "That the first Show be held in St. James's Hall on either July 4th or June 28th," not July 1st, which falls next year on a Sunday, and at which we parsons at any rate should rebel. But this was clearly a slip of the pen. It was found afterwards that the Hall could not be had for June 28th, so it was engaged for July 4th, with the understanding that if a show be held in London in 1878 it should be on the last Thursday in June; the date for 1877 suiting the more northern and midland growers, while that for 1878 would be more agreeable to the southerners.

Mr. Cant's question with regard to Mr. Mayor was a natural one; but there were many present who know him not only to be a keen rosarian and an ardent horticulturist, but a thorough man of business of kind and conciliatory manners. Without his aid I could not have undertaken the post which the meeting wished me to do. He will be financial Secretary, for, like most parsons, I am a shocking bad hand at figures, and moreover the Horticultural Club gives me quite as much of that as I care for. It was a mistake to represent me as saying that Mr. Mayor resided in my neighbourhood, for he lives at Winchmore Hill. What I did say was that we were members of the Club, and so had often opportunities of meeting. I have already seen what a valuable helpmate he will be, and I think if the success of the movement depends on the Secretaries pulling together, our friends need be under no apprehensions.

Many thanks, my dear "WILD SAVAGE," for the kindly way in which you have written of poor wooden "D." It was in truth a meeting of which I felt not a little proud. How worthily was the Rose represented! It was pleasant to see the worthy son of the father of Rose-growing in England there, for I think all will accord this to Thomas Rivers, whose indefatigable industry and skill have more than anything tended to make English Rose-growing what it is; to see the heads of the two sister firms of Cheshunt and Waltham Cross; the Colchester hero, too, with all his blushing honours of the past season thick upon him; the hearty and genial champion of the Manetti from Hereford; the king of florists from Slough; the prince of the seedling Briar from Oxford; and the goodly company of amateurs from all parts. And as after dinner we sat discussing the merits of the various Roses, one might have thought we were met together on a sunny day in June rather than on the dreariest of winter days.

And may I not add, too, that it proved the value and usefulness of the Horticultural Club as a central rallying point for all who love the craft? Here at once was a place for the meeting, so central that in two minutes you are in the busiest part of the Strand, and yet so quiet that all the traffic through that busy thoroughfare was as absolutely unheard as if we had been miles away, while the offer of the use of the rooms for the Committee of the National Rose Society at once relieved them of any trouble on the score of expense or a place of meeting.

The letters which I held in my hand represented a larger number of supporters than those present, and one and all



expressed a hearty concurrence in the movement. There was one whose absence all who knew him could not refrain from deploring, one well known to the readers of our Journal—my excellent and genial friend C. P. Peach; a regret increased by the knowledge that it was occasioned through severe illness, an illness contracted in the indefatigable discharge of his clerical duties, and from which he is slowly recovering.

Again I would express my sincere thanks to all who so kindly responded to my invitation, and earnestly hope that everything connected with our new Society may be indeed *couleur de Rose*.—D., Deal.

### CHOICE CLIMBING PLANTS FOR INDOOR DECORATION.

MANY plants of climbing habits are now used for the decoration of pillars, walls, and rafters of stoves and conservatories. Some climbing plants require an exotic heat to grow them well, and others succeed best when grown in a cool atmosphere; in fact there are no scarcity of choice plants of both classes, and a careful selection from both will add beauty and interest to all kinds of plant structures. Some plants have sweet-scented flowers, others have showy leaves without flowers of any importance; but with the great demand for cut flowers which now exists in nearly every garden climbing plants that will supply plenty of flowers suitable for cutting are those most in demand, and which deserve to be grown most extensively.

Amongst stove climbers the old *Stephanotis floribunda* is well known to be of great value. Its green leaves have no special attractions, but its flowers are unsurpassed in their purity of colour and fragrance. Cutting them does not disfigure the appearance of the plant, and there is no kind of floral arrangement into which the flowers cannot be wrought with advantage. The *Stephanotis* is very common, yet I do not think it is so much grown as it should be for cutting from. Instead of growing only perhaps a single plant of it up a rafter, it should be planted in every odd corner of a heated structure where space can be afforded.

The worst feature of the plant is its filthy nature. There is no plant in our gardens to which mealy bug and other insects are more attached. Still, when these are not allowed to make much headway it is surprising how little attention the plants require in the way of being kept clean. Frequent sponging is the best way of cleansing, and syringing often has a tendency to accomplish the same end.

Allamandas are useful hothouse climbers so long as the flowers are only wanted on the plants, but I have never found them in much demand in a cut state. All the flowers are yellow and rather clumsy in form, but they are generally produced in great numbers, and are very showy on the roof of a stove. *A. Shottii* does not produce such large flowers as *A. Hendersonii*, which is the variety most to be preferred.

*Dipladenias* might be classed with Allamandas so far as the form and general character of the flowers is concerned, but the former are much more attractive than the latter—indeed the *Dipladenias* are the finest flowering stove climbers we possess. I have no doubt the old rosy-crimson-flowering *D. amabilis* will be the best known to many readers; and although it is not so brilliant as the newer *D. Brearleyana*, it is still to be preferred as being freer in growth and more likely to succeed with those not accustomed to deal with shy-growing plants.

Were I restricted to one stove climber besides the *Stephanotis* I would have no hesitation in selecting *Clerodendron Balfourii*. Its lovely crimson and white flowers are not only highly ornamental on the plant, but in a cut state they are exceedingly useful, and as they are always produced in abundance the value of the plant is thereby much increased.

These four distinct stove climbers may all be grown to perfection under the same circumstances. The plants are often grown in pots and trained round small trellises, but their attractions are never seen to the greatest advantage under this restricted system of growth. To develop their beauty to the fullest extent every one of them should be planted out and allowed plenty of room for extension and development. A mixture of loam, peat, and sand suits them well, and good drainage and liberal cultivation in every way I always find to be most remunerative.

*Hoya carnosa* is a quick-growing plant, which does better in a warm stove than in a cool greenhouse. It delights in plenty of peat and sand. The flowers are produced in clusters, are pinkish-white in colour, and of a waxy texture. They are admirably suited for bouquets and button-holes.

*Ipomœa Horsfalliæ* is another choice climber which should find a place in every stove. The flowers are produced freely in autumn, and are of a bright crimson colour. It does very well on a shaded back wall where many other plants will not grow.

The best of the *Passifloras* for general purposes I consider to be *P. alata*, *P. amabilis*, *P. fulgens*, and *P. quadrangularis*, all the flowers of which are very attractive, and the fruit of the last-named is of considerable merit for dessert. Like other climbers they do best planted out, and a little decayed manure may be added to the loam and peat in which they are placed.

Those selecting greenhouse climbers must never think of leaving out the two *Lapagerias*, *L. rosea* and *L. alba*. The finest plants of both kinds I have ever seen were planted out in rough loam, peat, and sand, with plenty of drainage, and they were perfectly saturated with water while making their young wood. The white one is rather slow at starting into growth, but when it does begin it grows as freely as the red one.

Fuchsias and climbing Roses I have long found excellent in the conservatory, and when they cannot be planted out in borders they should be grown in boxes or tubs of a good size.

*Plumbago capensis* is also useful, especially after it has become established, as then enough flowers are produced to make the plant ornamental, and plenty to cut from besides.

*Acacia Riceana*, noticed in your pages lately, is a grand climber. Large quantities of its graceful shoots can always be cut away when in flower without ever being missed.

What the *Passifloras* are in the stove *Tacsonia Van-Volxemii* is in the greenhouse—free-growing and excellent.

The old *Cobœa scandens*, which is a favourite in some greenhouses, often grows too rampant, and it supplies nothing for the flower vases. Its variegated form, however, is attractive from its pendant sprays of lively foliage, and is suitable for drooping from the roof of a lofty conservatory.—PRACTITIONER.

### PRUNING SHRUBS IN WINTER.

SUMMER is generally admitted to be the best season of the year for pruning shrubs, yet much experience has shown me that most Conifers and evergreens may be cut without injury during the winter months. At whatever period the pruning of ornamental trees and shrubs is done it must be done tastefully and carefully—as carefully, in fact, as is the pruning of well-trained fruit trees.

Some there are who have such strong objections to the pruning of shrubs in winter that they will not allow a few sprays to be cut for the decoration of churches and rooms at Christmas. At this period of the year there is much "hacking and slashing" of evergreens, which is most objectionable, but because work is occasionally done in a bungling manner is no reason why it should not be done at all. As a rule the pruning of shrubs is either not done at all, or it is carried to an extreme. We either find one shrub spoiling its neighbour for the want of pruning or thinning, and the beauty of both restricted; or we find pruning carried almost to the point of shaving, resulting in a chilling display of stiff and formal "round heads." In a few—very few—gardens this mode of pruning is permissible provided it is done well: in other gardens a dense intermingling thicket of evergreens may be appropriate, and the knife may be banished altogether; but these instances again are only few. In the majority of gardens timely thinning and moderate and well-executed pruning of shrubs would add much to their beauty. Such pruning may be done now. I allude to the subject because Christmas is near, and when many, especially the young and the fair, are anticipating the pleasure of wreath and festoon-making in obedience to the old fashion of greeting and celebrating the great festival. By pruning evergreens now we not only do not injure the specimens, but improve them, and in addition we give pleasure, joyous and wholesome, to many who are waiting—almost longing—for the prunings.

For several years I was gardener to a clergyman—an excellent man, who had an excellent collection of shrubs. These shrubs he cherished, but so great was his antipathy to pruning them in winter that he would not allow them to be cut either for the Christmas decoration of his house or the church. Rather than do this he would, and did, purchase large quantities of evergreens from and for others for use during Christmas-tide. That clergyman, like most others, was honest in his convictions, which are, perhaps, too often interpreted by outsiders as being merely eccentricities. Eventually this fine

collection of shrubs became the property of another clergyman, and who also prized them highly. He was not disposed, however, to purchase evergreens for Christmas decoration when he had so many shrubs growing in his garden. The time of pruning was consequently changed. Instead of being done in summer it was done in mild weather during the autumn and winter, and the "prunings" were distributed at Christmas. The shrubs have now been thus pruned for ten years, and not one of them has suffered. They are as perfect and handsome as ever, and sprays from them have decorated hundreds of homes.

In pruning shrubs in winter the work must be carefully done. The cuts must be smooth and clean—no breaking over the knife—and should be made on the underneath sides of the branches as much as possible. Shrubs which are regularly and slightly pruned to keep them shapely do not require to have more than a few short sprays removed annually; and these small sprays of Holly, Box, Laurels, &c., are exactly suitable for wreathing, and are always welcomed by many who take special delight in carrying out the good old custom of evergreen-decoration at Christmas in a tasteful manner.

Venerable customs have deep root in the national mind; they are appropriate to an old country like our own, and certainly this one—evergreen decoration—is not likely to decay, for it is in the keeping of the youth—sturdy and gentle—of each succeeding generation. The joyousness of youth is healthy—healthy to all. A source of pleasure so pure, and even artistic as "Christmas decorations," is commendable. Let us foster it so far as we can, and not restrict it by the fear of any fancied injury resulting to the shrubs. Careful reasonable pruning of shrubs in winter does not and cannot harm them, while the prunings are "Christmas gifts" costless almost to the giver, yet highly prized by the eager recipients who bear them away in triumph, for they are to them (the young) the first evidence that Christmas has really come—the first expression of "good will," which for eighteen hundred years and more has been particularly identified with the festive season. I would not have the shrubs injured, but improved; and when we can improve the garden and beautify the "church and home"—I like that alliance—I cannot help thinking that it is worth while our doing so. The pleasures of the garden are then taken into the dwelling, the garden becomes a reality and is cherished, selfishness is forgotten, unity reigns, and the result is to all who can enjoy it—a "merry Christmas." Now, as my last words, I say Prune judiciously; decorate tastefully.—A RETIRED GARDENER.

### PLUMBAGO ROSEA.

Among the many plants adapted for the adornment of our stoves and intermediate houses at this dull season of the year, none is more worthy of cultivation than the *Plumbago rosea*, and I think I may say none is more neglected. If we find it in a collection of plants at all it is in a straggling condition, placed in a corner out of the way, and grown in a pot containing soil only sufficient for the plant to eke out a miserable existence, or it is dropped in amongst other plants and allowed to push up its racemes of glorious flowers to view as best it can. And why is it? Is it because the plant is not a novelty? Is it because it is not adapted for cutting purposes? Is it because it is difficult to grow? Is it because the plant is not capable of producing a good display of flowers? Has it not a pleasing colour? Is its season of flowering of short duration? Is it not sufficiently known, or why is it? For my own part I am at a loss to know the cause of its neglect.

The plant is certainly not a novelty, as it was introduced in 1777. For cutting purposes it certainly is not well adapted, except in cases where flowers are merely required for an hour or two, when it may be advantageously used; but on the other hand, where flowers are expected to last for two or three days in a presentable condition, it would be folly to expect the *Plumbago rosea* to endure for such a time, as the flimsy flowers soon succumb after being severed from the plant. It is true all the flowers of a raceme do not wither and fade at once, but those left are not sufficient to recommend it for general cutting purposes.

In point of culture it is one of the easiest to grow of all stove plants, and only requires to be grown in quantity to produce a charming effect. Its colour is of the most pleasing hue, and its season of flowering extends over four months, but although the plant has already been in cultivation one hundred

years, I question very much if it has been grown in sufficient quantities to recommend it for general cultivation, otherwise we should meet with it more frequently and in larger quantities, as it is only by growing it in quantities that its full beauty is realised.

After I undertook my present duties in January of last year, I busied myself about the furnishing of all the walls with plants of climbing habit. The walls which puzzled me most were the walls of the Melon houses, there being no accommodation for planting anything out, and the narrow stage over the return pipes against the wall being merely wide enough for 8-inch pots. It occurred to me to cover these walls with *Ficus repens*. This would have succeeded well undoubtedly, but my ambition was to cover the walls with flowering plants, and I thought that *Plumbago rosea* might possibly be suitable. It was a happy thought, and some old plants being at command these were cared for, and cuttings were procured and propagated. As soon as rooted they received liberal attention by way of potting, light, heat, moisture, and weak applications of liquid manure. The plants were never allowed a check, but were hurried on into the 8-inch pots as soon as ready, the shoots being occasionally pinched as required to induce side shoots, which were freely produced, and by the middle of November the plants were from 6 to 7 feet high, and covered with their charming flowers. Although I had grown the plant more or less for years, still I really did not anticipate such a glorious reward for the little trouble bestowed on these plants, for they continued flowering most freely until the month of March. During the time they were in flower numerous gardeners called here to see the gardens, and I could not avoid noticing the astonishment of one and all on seeing such a charming display of the old *Plumbago rosea*. The plants were not tied in closely to the walls, but were allowed to hang out from 1 to 1½ foot over the passage, which considerably enhanced their appearance, their long, arching, pendulous racemes of flowers being thus shown to advantage.

The same walls, 60 feet long, are now covered with plants which have for the past month been producing thousands of flowers equally as fine as last year, and so long as I have walls to cover so long shall I find room for a few plants of my old friend *Plumbago rosea*. The plant is not at all particular as to soil; those plants now flowering are growing principally in road scrapings, and are well fed with liquid manure. *Plumbago rosea* is also a very clean plant, seldom being attacked with any insects except thrips, which should be well watched for, as they increase on it very rapidly. Scale sometimes infests it, but is easily kept down.

I have tried all sorts of experiments with the plants, by subjecting them to various temperatures before the flowers expanded in hopes of getting them to keep well after being cut, but no attempt has nearly succeeded sufficiently for me to recommend the plant for cutting purposes; but for the decoration or furnishing of stove or intermediate houses with flowers at this dull season of the year the *Plumbago rosea* stands second to none, but on the other hand, in my estimation it rivals many plants that we have long prized.—JAMES OLLERHEAD.

[The plants referred to were noticed in our columns last week. We never saw a wall more beautifully furnished.—Eds.]

### NOTES AND GLEANINGS.

We have received from Mr. J. Sinclair, gardener to Sir H. D. Ingilby, Bart., Ripley Castle, Leeds, a GARDEN DAY-BOOK, which he has found of very great use. The book consists of 365 pages, and is so arranged that the value of the vegetables, fruits, and flowers supplied each day from the garden can be expeditiously entered. Full lists of vegetables and fruit are printed on every page, and only the value of each day's supply requires to be added to the money column. There is also a space for "weather observations" and "general remarks." We agree with the compiler that such a book if neatly kept would be useful to gardeners generally, also to owners of gardens; but the difficulty, as it appears to us, would be in keeping it "neatly," for it is not everyone who can insert figures clearly in spaces only slightly exceeding a sixteenth of an inch between the lines. If a second edition is called for we advise that the pages be made larger and an additional column be added for quantities. We think also the total amounts of each section should be provided for, and so arranged that the entire amount of each day can be carried forward to the next. The book, however, as at present arranged is concise and in-

expensive, and managers and owners of gardens may well adopt it as one of their New Year requisites.

— THE best-grown PRIMULAS that we have this year seen are in the gardens of Munster House, Fulham. The plants, which are in small 48-sized pots, are from 18 inches to 2 feet in diameter, and are about 18 inches in height. We counted on one plant 150 expanded flowers of superior quality. The seed was obtained from Mr. B. S. Williams of Holloway, and the plants are alike creditable to the seedsman and to the cultivator, Mr. J. Pithers.

— WE have received from Mr. Wipf, gardener to R. Clayton, Esq., Lincoln, a very fine head of POINSETTIA PULCHERRIMA. When placed on a sheet of paper and a circle was drawn touching the points of half a dozen of the principal bracts the diameter of that circle was  $17\frac{1}{2}$  inches. Forty-one bracts surrounded the central corymb of forty-one flowers, the principal bracts being  $2\frac{1}{2}$  inches in diameter. The foliage sent was of the deepest green, one leaf measuring  $9\frac{1}{2}$  inches in length and  $6\frac{1}{2}$  in breadth. The petioles of the leaves and bracts were of a deep red colour, indicative of superior cultivation. Mr. Wipf also sent prunings of Lady Downe's and Muscat of Alexandria Vines. The young wood is not so remarkable for its size as its density and its small speck of pith. The wood (which is as hard as Oak) is three-quarters of an inch, the pith being only one-twentieth of an inch in diameter. We shall expect to hear of such excellent wood producing superior Grapes.

— AN useful hint may occasionally be derived from humble sources, and we lately noticed a plan in a cottager's dwelling of KEEPING CAULIFLOWERS which is not known or practised by every gardener in the three kingdoms. The owner of the cottage was desirous of having Cauliflowers for Christmas, and five weeks ago cut some close heads, and which are now as fresh and firm as ever. These Cauliflowers are suspended in a cool pantry with their stalks or cut parts upwards. The stalks are hollowed out by scooping away the pith, and the cavity in each is filled with water. As this is absorbed or evaporated it is replenished, and the result is that the heads remain as fresh and firm as when cut from the garden. The owner says he has thus preserved Cauliflowers for more than two months.

— PERHAPS the value of small CONIFERS IN POTS is not quite so fully appreciated for indoor decoration as is desirable. For halls, corridors, vestibules, staircases, and similar places few plants are more suitable and effective than these. Even in conservatories the choicest of them are admissible, such as the most elegant of the Retinosporas, Junipers, Thujsopes, and Cryptomerias. Of these there are variegated forms, which are particularly attractive and are worthy of a place amongst ornamental groups of plants of a more tender nature. The common kinds of Conifers, also Hollies, &c., are also highly worthy of notice for rendering cheerful places which are too dry or draughty for stove or greenhouse plants. At this period of the year when rooms large and small, public and private, are sought to be made specially cheerful, small, trim, and elegant examples of the shrubs referred to are eminently worthy of notice as the most hardy and ornamental "Christmas trees."

— FOR the erection of a MONUMENT TO LINNÆUS 36,000 crowns have been subscribed. The monument will be erected in Stockholm, and will be unveiled on January 10th, 1878, the hundredth anniversary of the death of the great naturalist.

— AT the meeting of the members of the Paris Academy of Sciences held early in the present month the report on the experiments made by the Paris-Lyons Mediterranean Company for COMBATING THE PHYLLOXERA was read. They commend sulphide of carbon and sulpho-carbonates, which should be applied when the products of the winter eggs have descended to the roots—i.e., about July. The old Phylloxera of the roots is thus treated as well.

— WE noticed last week a remarkable display of Plumbago rosea at Wimbledon House, equally noteworthy is the HEDGE of EUPHORBIA JACQUINIEFLORA (PULCHRA) now flowering in the Pine stove in the same garden. This hedge is 60 feet in length and forms a background to the Pines, the Euphorbia having been planted close to the back wall of the Pine pit, from whence a portion of the tan was removed and replaced with soil. The roots of the plants have, however, evidently penetrated into the tan, for on no other assumption can the wonderful growth of the plants be attributed. It is safe to

say that thousands of the shoots exceed 6 feet in length, and many we noticed could not be less than 8 feet, with foliage of the deepest green and flowers of unusual size. This "hedge" neither interferes with the Pines nor anything else in the house, and yields armfuls of brilliant sprays. In such profusion are they that a cartload could be cut if required. Mr. Ollerhead has in another column detailed his mode of growing the wall of Plumbago rosea; the history of this remarkable "hedge of Euphorbias" would be no less welcomed by many readers.

— IN addition to the donations already announced, amounting to £105, which have been offered to the NATIONAL ROSE SOCIETY, Edward Mawley, Esq., of Lucknow House, Croydon, offers 5 guineas for twelve Tea Roses, and J. F. Curtis, Esq., of Chatteris, £1 ls. towards a special prize for the best twelve Roses.

— FROM the recently published report of the Metropolitan Board of Works we find that the PARKS, GARDENS, HEATHS, and COMMONS under their control comprise an area of 1,094 acres, for which the Board had paid £313,859, and repaid £66,538. The interest upon the balance unpaid and the cost of maintenance of all these parks and open spaces amount to a charge upon the ratepayers of only one farthing in the pound.

— A NOVEL and interesting EXHIBITION OF ARTIFICIAL FLOWERS AND FRUIT is proposed to be held in March next at the Crystal Palace, when valuable prizes will be awarded to the most beautiful and natural specimens of imitative floral art. The classes will comprise flowers (wild and cultivated), Ferns, and fruit, and will be so arranged as to provide for competition amongst amateurs as well as amongst manufacturers. Another new Show will be one of Auriculas, which will be held in the early spring.

— MR. GEORGE HOLLIDAY, the gardener at Castle Hill, Bletchingley, informs us he has some very fine POINSETTIA PULCHERRIMA in bloom, measuring some 15, 16, and  $17\frac{1}{2}$  inches across them. The bracts are some 2 and  $2\frac{1}{2}$  inches wide. They are grown in 6-inch pots. Such specimens are very noteworthy.

— THE fourth annual festival of the GARDENERS' INSTITUTE was held in the Central Hall, Darlington, on the 11th inst., when about four hundred persons sat down. After the tables had been removed, the Mayor (Mr. T. R. M. Plews) took the chair, and stated that the festival originated with the young men connected with the Gardeners' Institute generously founded some years ago by Mr. Edward Pease. The festival had prospered so much that this year it had been found necessary to engage the Central Hall in place of the Mechanics', previously used. He hoped that it would be maintained annually, and that as large a company might be present as were there that evening. Whatever funds accrued were used for the benefit of the Institute. A great part of the credit of the success was due to Messrs. Ford and Taylor, the honorary Secretaries, and to Mr. W. Hodgson, their Master of Ceremonies.

— THE ARBORICULTURAL SOCIETY OF BELGIUM will have its yearly meeting at Ghent on January 21st next. Besides the formal proceedings there will be two discussions—1, On the merits of the varieties of Pears; 2, On the disuse of pruning fruit trees.

— A CORRESPONDENT writing from the neighbourhood of Gosport, states that ROSES are BLOOMING VERY LATE. He gathered from his garden during the present month many blooms of Gloire de Dijon, also Devoniensis, Duke of Edinburgh, John Hopper, Turenne, President Willermoz, Perle de Lyon, and Céline Forestier.

— MR. R. W. FOSTER writes to us as follows relative to DESTROYING WEEDS ON GRAVEL WALKS:—"I use a solution of Calvert's No. 5 carbolic acid, 1 part acid to 100 parts of water, applying it with a watering-can. As the solution removes the paint from the outside of the can if spilt on it, I use a plain unpainted can." We have other testimony that carbolic acid is an effective weed-destroyer.

— A GREAT increase in the importation of POTATOES has occurred this year. The value is £1,631,808, and last year in the eleven months £941,480.

#### CAUTION.

NURSEYMEN are most liberal and honest men, but the commodities sent out are not always true to name. My two favourite hobbies are Roses, of which I have over 2500, and Peach

and Nectarine trees 183 in number. It is of no use sending me one thing for another. I am sure to find it out. I have had Old Roman Nectarines sent for Royal George, and Princess Clementine (summer Rose, white; very beautiful) sent for La Tour d'Auvergne, a red summer Rose. Now I am sure that the nurserymen who sent the above were not aware of the mistake. I can only account for these mistakes by the carelessness of the propagator, or by the "larking" habits of improvers, who are permitted to propagate, but who "lark" during propagation.

N.B.—Do not turn off your propagator till the season is over, and have a book to depend on instead of moveable tallies.  
—W. F. RADCLIFFE.

### APPLE ELECTION.

Now that the election of Apples is mooted, what have the readers of our Journal to say about the project being carried into effect? As with Roses so with Apples. That there will be an amount of labour and anxiety about an election there can be no doubt, and who will lead the van and be the returning officer? Mr. Robson has well ventilated the question, but my own opinion is that three classes will answer the purpose required—namely, earliest, midseason, and latest kinds. Apples vary, some doing well in one place, some in another. Locality, circumstances, climate, and situation have much to do with their well-doing. I have known in some seasons Apples which have kept well, and in others the same sort have not kept well at all. I have known when Striped Beefing and other useful keeping Apples, after being carefully stored, have gone off with a disease like dry rot; other seasons they have not been affected at all. Early Apples in some seasons have kept for months, at other times they have speedily decayed; so that under some circumstances it becomes a difficult matter to say when they are in and out of season. Then, again, we northmen are sometimes inclined to envy our more favoured southern brethren, yet they say we need not do so. No doubt they have their difficulties as well as we have, yet we have an idea that the climate of the south on the whole is more favourable than that of the north; nevertheless, by all and every means let us have the election.—PYRUS MALUS.

### EUCALYPTUS GLOBULUS.

THE information supplied from Ireland to the hardiness of this beautiful evergreen has in the majority of instances been favourable. However, in my case I regret to record a total failure. Three plants 5 feet high I planted out in warm situations sheltered from the north-east winds on the east coast of County Down. In two years those plants attained the height of 20 feet. In February of the third year, during a long period of snow and frost, the splendid foliage gave way and the trees became leafless, with the extreme ends of the branches blackened and dead. They never recovered. A similar fate was the lot of many more, and deeply did the owner regret the loss.—JOHN BOYD, *Co. Dublin*.

### RENEWING OLD VINES.

WITH the exception of a few late sorts all Vines will now be at rest, and those which have not done well throughout the season should now be under consideration as to what is best to do with them. If they are very old Vines, and seem quite exhausted, many would recommend that such be rooted out altogether and be replaced with young canes. Under certain circumstances perhaps this would be the best thing to do; but I am inclined to think that rooting-out and planting afresh is not always the most profitable way of disposing of old Vines.

Several cases have come under my notice lately where the old Vines had annually been decreasing in strength and fruitfulness until the young shoots were no thicker than straws and the bunches little larger than Black Currants, and these same Vines are now producing wood and fruit equal to the best five or six-year-old young Vines; and with this advantage—that they bear as much fruit the second or third year after being renewed as a young Vine would be capable of doing the fifth or sixth year. Young Vines are generally planted two years before they bear fruit, and, as a rule, they only bear a bunch or two the third year, while it takes them another year or two to be in bearing condition the full length of the rod or rafter. Old Vines have no leading cane or spurs

to make, as they are always the full length of the rafter, and all they require is something to put fresh vigour into the old wood, and this may be accomplished in the following manner:—

When the Vines are quite dormant, if the roots are outside, begin by digging a trench along the border 4 feet deep and 8 feet from the front of the vinery. When this has been taken out 3 feet wide take another trench out in the same manner, and in doing so be very careful to preserve the roots as entire as possible, and place them as they are laid bare up towards the stem. The soil must all be taken out to the depth of 4 feet until the whole Vine can be lifted away. The bottom of the border will then be clear, and if the drainage is not naturally good place a layer of rough broken stones or bricks to the depth of 6 inches all over the bottom. Where the roots are inside the house serve that in the same way, and then fill up to within 18 inches of the surface with a mixture of good loam and ground bones. During these operations the roots should be tied-up in a damp mat, and as soon as the border has been filled up to the extent stated, take the Vine and place it where it has to grow, then spread the roots all over the surface of the new soil, and cover them carefully up to the original level of the border with the best of the soil. Place about 2 feet of long dung and fresh leaves over the newly-made border, and for the first year do not push the Vines into growth with much fire heat, and when they do make shoots let them grow from 2 to 3 feet long before stopping them; and if all the bunches are cut off as they appear the first year, the second year's crop will be all the better for it. After the wood has been well ripened the Vines may be rested as in former years, and the crop the following season will be little, if anything, inferior to the best they ever produced, and they will continue on for years to bear like young Vines.

I have seen old exhausted Vines treated at the roots as above described, and the rods cut off at the lowermost spur, send fine strong canes up to the top of the rafter the first season.—VITIS.

[So have we.—EDS.]

### THE GARDENS AT BUCKINGHAM PALACE.

JOHN SHEFFIELD, Duke of Buckingham, built a house in 1703 on the site where the Palace now stands which bears his name. This Palace was commenced building in 1825 from designs furnished by Mr. Nash, and many years passed before it was completed. The area of the gardens is about fifty acres, of which there are about twenty-five acres grass. There is a considerable breadth of ornamental waters, islands, rustic bridges, magnificent trees and shrubs, that one might believe one's self to be a hundred miles in the country among the most beautiful natural scenery were it not for the distant and rather faint rumbling of the traffic in the adjoining streets.

The gardens lie to the west of the Palace, and in the Georges' time the site which they occupy was devoted to dairy purposes, but the late Prince Consort had the ground laid out in the English style, and always had the gardens kept in a fit condition for the reception of royalty.

That part of the lawn which adjoins the Palace is kept quite open, not a tree nor bush interrupting its level expanse of turf. On this grassy carpet cricket, football, and other games have been played during years past, and the Royal Family can call to mind many happy scenes of their youth. Where the lawn becomes first broken in its continuity there is some breadth of ornamental water well stocked with waterfowl, amongst which are many rare exotic species. The waters are varied with islands and plantations, which are connected together by rustic bridges; and on the shore most remote from the Palace are some grand forest trees, Oaks, Elms, Planes, Beeches, Poplars, Limes, and other trees of stately growth, some of which sweep their lower branches grandly over the glittering surface of the waters, others towering upwards, and their tops are reflected in the clear surface of the lake. The Queen, when the weather was fine, used to breakfast in the open air under the shade of the trees that fringe the ornamental waters. Beyond the water there are thickets of choice shrubs, deciduous trees, clumps of Rhododendrons, and other evergreens. The richness of the miscellaneous gathering is peculiar to the spot.

We next come upon wilder scenes. Sometimes we are hemmed-in between thickets, and anon are enjoying a charming view from the crown of a hill, and again find ourselves in a deep hollow among Ferns and grasses or a tangle of flowering



and trailing plants. On the more level part of this varied surface there are many noble specimens of trees and shrubs. The undulations terminate in one direction in a mound upwards of 100 feet high, and although artificial, it is so managed that it seems to be quite natural, and it acquires its naturalness and its beauty from the soundest rules of art in the formation and the planting.

The shady walks and cool retreats which necessarily accompany this picturesque style were a constant source of enjoyment to the late Prince Consort when staying at the Palace. Some of the walks are quite arched over with Laburnums, Honeysuckle, Guelder Roses, and scarlet-flowering Thorns, which were planted by the Prince's hand, and among and under these he would oftentimes lead his children at early dawn to hear the song of the thrush or the blackbird. The Prince was intensely fond of birds, and these gardens are numerous

peopled by the feathered songsters, for it was a place of privilege to them. Not a nest was ever knowingly disturbed, and it was the constant aim of the Royal father to teach his children to show tenderness to helpless creatures, and it has been exemplified in all the Royal Family. The children were also taught to take an interest in flowers, and had each their own little garden, which was a source of great delight to them, where they learnt the names of those flowers which were dear to them, because themselves had planted, watered, and watched them. Healthy exercise in gardening is indeed recreation, natural, simple, and pure, which may be enjoyed in all stages of society from the prince to the peasant, bringing blessings to the palace and peace to the cottage. Gardening improves the heart as well as the taste; it refreshes the body and lightens the spirits, and the more refined the taste the more exquisite the gratification that may be enjoyed in every cherished garden.



Fig. 77.—BUCKINGHAM PALACE GARDEN.

Bedding plants are of course used in the Buckingham Palace gardens, and some of the most agreeable effects are those produced by isolated masses or small groups of detached beds, which afford scope for only a few simple colours. There is, however, a geometric garden proper, which consists of a grand circular scheme of nineteen beds which I have seen effectively arranged, planted with choice and suitable plants, and kept with scrupulous care.

The conservatory is on the north side of the Palace, and, like it, lacking elegance, and unfortunately not at all well adapted for the growing plants, and to keep it in good order the plants must be frequently changed. I have seen it look very beautiful in the autumn with Chrysanthemums of both the large varieties and Pompons, grouped with specimen shrubs and fine-foliated plants so as to form the most attractive features of a picturesque scene, in which they appear to greater advantage than when exhibited by themselves.

The Chrysanthemum is a favourite flower of all classes, and it is one of the flowers admired by our Queen; Chrysanthemums are therefore extensively grown out of doors in these gardens. They peep up amongst the shrubs, fringe the walks, cover the banks, and make the whole place gay as if wholly devoted to this autumnal flower, which it is not, for there are displays of all kinds as the seasons revolve. Let it suffice, then, that horticulture is fairly represented. Mr. Humphrey,

late gardener at White Lodge, Richmond Park, is the gardener at Buckingham Palace. He was appointed about three years ago, and succeeded the late Mr. George Wyness who died in harness, and like him is a very estimable man.—N. COLE, Kensington.

#### MUSCATS ON THE EXTENSION SYSTEM.

I HAD long ago cherished a notion that I could grow Muscat Grapes if I only had an opportunity to do it my own way, and six years ago such an opportunity presented itself with the result shown in the engraving.

The Vines were planted on the 22nd of June, 1870, and had been raised from eyes the same season. They were placed about 7 feet apart on each side of the house; they all grew well, and carried a bunch or two the year after planting. This was more to check over-luxuriance than for the sake of the fruit, as we had Vines planted temporarily along the centre of the house for supplying fruit at first. The permanent Vines, notwithstanding rather heavy cropping and root-pruning, grew very vigorously, and two years ago it was a question whether to go on mutilating them still more severely, or destroy some of them and allow those remaining to have a more natural extension. I decided on the latter method. A Vine near each of the four corners of the house was brought down to a hori-

zontal position, and shoots were trained at right angles from them in the spaces between the other Vines, and they have now so completely furnished the whole compartment that all others will be removed. It is very probable, according to present appearances, that in another year or two the number will have to be still further reduced.

The growth these four Vines have made is I think somewhat remarkable, the circumference of the largest stem being 13 ins., and that of the smallest 10½ inches, measured just above the ground; at 2 feet 6 inches from the ground the largest measures 8½ inches, and smallest 7½ inches. The size of this compartment is 80 feet by 30, and each Vine runs half the length.

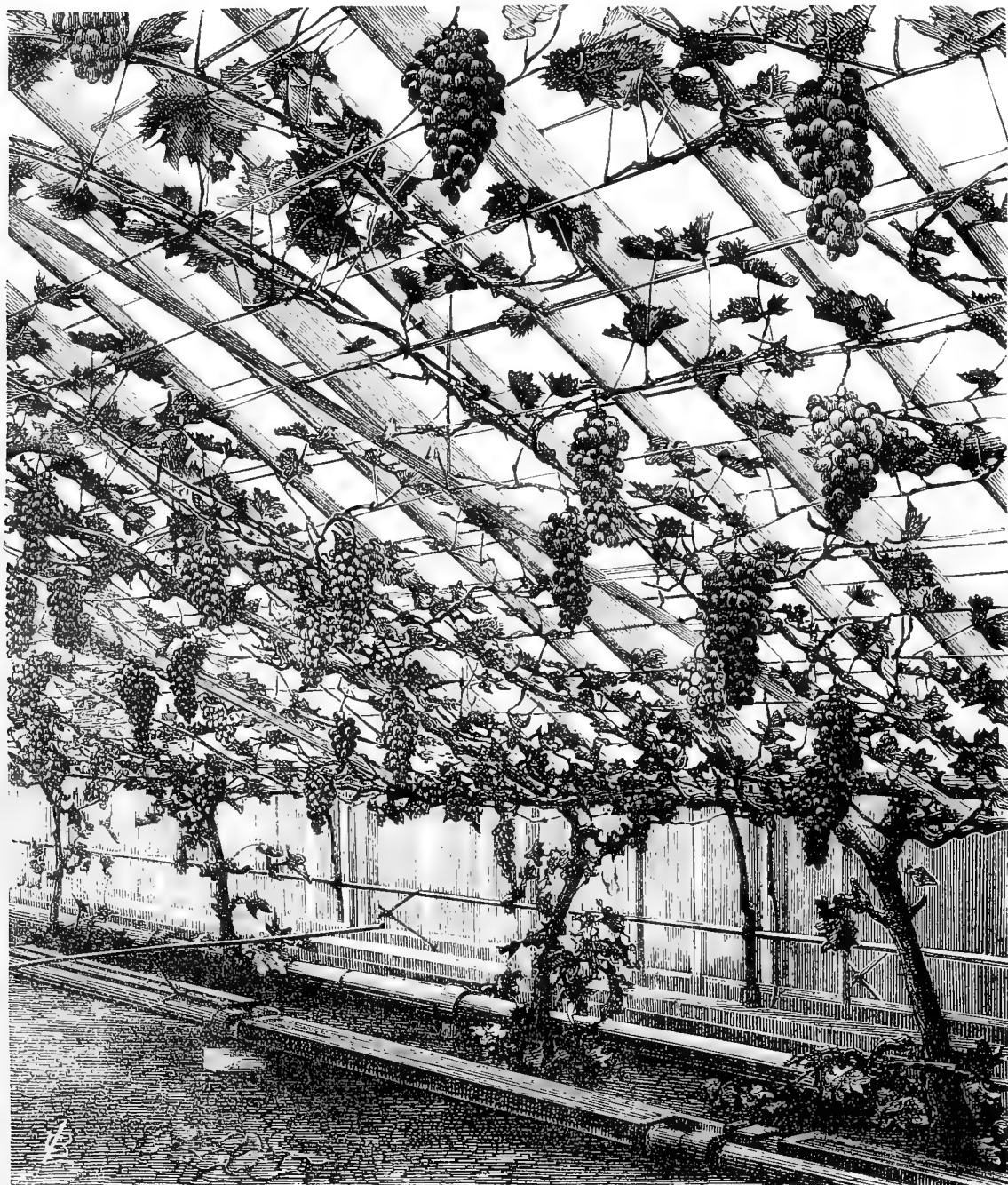


Fig. 78.—MUSCATS ON THE EXTENSION SYSTEM AT LONGLEAT.

The opposite side to that shown in the engraving had the number of plants reduced to four last spring with very satisfactory results. A photograph of that side was taken, but as it was from the other end, and consequently in opposition to the sunlight, it did not come out satisfactorily.

So much for the growth of wood, now what about the fruit? Well, all the fruit is, perhaps, above the average for Muscat

Grapes, but that on the restricted rods will bear no comparison with the rest. It did not colour so early nor so well, and is inclined to shrivel in places, while that on the large or extension Vines is perfect in every respect. This is not because the large Vines are not carrying a fair crop—they ripened from fifty to fifty-three large bunches each, which average considerably over 2 lbs. a bunch; but it is, I am convinced, because they are

grown in a more natural manner, and the fruit is all produced on young wood, which always has the best perfected eyes.

I have described my treatment of Muscat Vines in previous numbers of the Journal. It differs chiefly from the general practice in having less fire heat, the temperature often being as low as 55° at all stages of growth; there is no syringing at any time, not even at starting, no artificial setting beyond a gentle tap on the trellis, abundance of water is given to the roots both in winter and summer, and the ventilation is attended to as soon as the sun touches the house. A sun temperature of 80° to 90° is always desirable, but it is essential to have the greatest part of the rise after the ventilators are open.

In conclusion, I have to say, that although I believe I am going in the right direction to grow Muscats, I consider I have as yet only half succeeded, and that nobody knows what may be done with this noble class of Grapes when we once set aside our old-fashioned notions about its being difficult to grow and requiring an extraordinary amount of fire heat. Muscats and other light-coloured Grapes require more sunlight than black Grapes require, but not more heat.

All fruits, in my opinion, are better when the plants which bear them are allowed to extend somewhat every year.—WM. TAYLOR.

## NOTES ON VILLA AND SUBURBAN GARDENING.

**CUCUMBERS.**—Those who require early Cucumbers, and have no other convenience for growing them than by dung heat, must now commence operations, as it takes a considerable time to prepare the materials. It is the best way to use a small frame for raising the plants, as less manure is then required, and less cost is incurred in keeping up the requisite heat. Again, by raising the plants and having them well advanced in a single-light frame materials for a larger frame or bed can be prepared, and the season being then a little more advanced the plants may be expected to do best in the last-made and largest bed; therefore lose no time now in preparing sufficient manure as will make a fair-sized bed. After the manure has fermented it should be repeatedly turned and well mixed in order that the rank steam may escape, and then when put up all parts of the bed will heat alike and settle down regularly. I use a third of good oak leaves with the manure; but these are not absolutely necessary, and many amateurs are not able to obtain leaves.

When the rank heat has escaped and the manure is sweetened measure the length and breadth of the frame, and set the bed out a few inches wider all round. The bed ought to be 5 feet high at the back and 4 at the front. First of all, however, a layer of faggots should be placed at the bottom to keep the manure clear from the ground, so as not to be affected by the coldness of it. In building up the bed take care to lay the manure regularly and beat it down as firmly as can be done with the back of the fork, but do not tread it down with the feet. When high enough put on the frame and also the light; this will help to draw up the heat. Let a trial stick be thrust into the centre of the bed, and watch this regularly as the heat rises, and it will be easy to tell when the soil may be put in; but take care that the bed is not so hot as to burn the soil, for if so no plants will grow in it, and it would all have to be taken out again and much time lost. Neither should the soil be spread all over the bed, but a heap should be made in the centre of it reaching near to the glass. This will not bring the heat down very much, and it will soon become warmed through. Let the mixture be two-thirds of good turfy loam and one-third of well-decayed leaf soil.

The seeds should be sown in well-drained pots or pans in the soil that is warm. The soil should be rather dry than wet, and that for the seeds be much finer than that for the after-growth of the plants. Plunge the pots in the soil and only just cover the seeds, and it is not advisable to water for two or three days, or the seeds are liable to rot. When the plants appear, and their seed leaves are fully grown, they may be potted-off one in a pot in warm soil, and this should be done without taking them out of the frame.

When the plants have made about three rough leaves they may be planted in the bed prepared for them. The temperature must not go below 65°, but 70° would be better if it can be provided. Ample covering must be placed over the glass at night; and in order to encourage the plants to grow well the glass must be kept very clean to admit as much light and sun as possible in these short days. When the heat falls below that stated above linings of heating material must be at once applied; but this need not go through the process of fermentation like the other, but great care must be taken that the rank steam does not enter the frame, and which can be excluded by stopping up the space along the bottom of the frame with the exhausted manure. Occasionally, when the lights are slightly propped up to let the inside steam out, the steam from the lining enters there, so the mats must be put on with care, so as

not to cover the lining as well as frame, or the steam is conveyed inside the frame. The manure for the linings must be well mixed, or one part will heat more than another. It is very essential to select a sheltered yet as sunny a spot as possible for the bed, and sometimes during very cold nights or windy weather it is necessary to protect the bed with straw, or, what is better, thatched hurdles. They can be easily removed when not wanted.

When the roots of the plants show through the soil a thin layer of soil should be added, previously warmed, so as not to cool the atmosphere. Also let the water be warmed before it is applied. No manure water will be needed until the plants are fruiting. The above are the principal directions for the management of a dung bed, and if carried out carefully cannot fail to prove successful.

As to sorts, many grow what they call their own sorts with local names, but a good form of Telegraph, such as Paul's or Rollison's, Monro's Duke of Edinburgh, the old Sion House, Lord Kenyon's Favourite (a small but wonderfully prolific sort), and Master's Prolific, are all suitable for early produce.—THOMAS RECORD.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### HARDY FRUIT GARDEN.

It will be time to see that the pruning and nailing of wall trees is proceeded with as soon as possible if it is not already done. All the hardiest trees should be pruned first. Pears and Apples will take no harm, nor in ordinary seasons in the south of England, especially in dry districts, will the trees suffer; but those who have only had experience in such districts are not in a position to dictate to gardeners where the rainfall has been nearly double with a corresponding want of sunshine, which has caused the young wood to be overcharged with moisture, and consequently much less able to resist frost. Under such unfavourable circumstances much may be done by an efficient system of draining and border-making—indeed, it would be useless to try the cultivation of the finer fruits without this preparation, and all trees which are subject to gumming ought to have good well-drained borders for the roots to work into. Those who have had experience with wet low-lying districts will probably prefer to wait until all danger of severe frost is over before pruning their trees.

The training of Peach and Nectarine trees is seldom well done by amateurs. Notwithstanding all that has been said and written about different systems of management, there is no better mode of training than that which has been the custom for so many years in all well-kept gardens—namely, the fan method. The object of the cultivator is to encourage the growth of young wood disposed as regularly as possible all over the wall, and to cut out old wood where it is not required, replacing it with healthy young wood of the previous year. Should very severe frost set in after the present wet and mild autumn much damage may be done to both the old and young wood, and the work of the pruner and trainer might have to be done over again, and the trees would suffer much more severely after they had been pruned and trained than if nothing had been done to them. A little delay, therefore, in pruning these tender fruits may be advantageous.

Plum and Cherry trees suffer much from gumming in such seasons as the present, and when an apparently healthy branch is badly gummed it is better to cut it off at once at the injured part than allow it to remain to die, as it were, a lingering death by strangulation. Such branches sometimes do not show any injury now, but will do so two months hence. The same may be said of Apricots. The young wood seldom suffers, but large branches die off at any season and without apparent cause. Pruning may be done in the following order—first Apples, then in succession Pears, Cherries, Plums, Apricots, Peaches, and Nectarines. Many of the old gardeners used to unfasten their Peach and Nectarine trees from the walls at this season and secure the branches to stout poles, which had the effect of considerably retarding the blossoming period, and gave a better chance to resist early frosts. The branches should be nailed to the walls about the end of February. When it is necessary in pruning to cut-back the young wood of Peach and Nectarine trees it ought always to be cut to a triple bud, as the middle bud of the three will be a wood bud. Triple buds are not usually found on the weakest wood, but only on that which is strong or moderately so. If there are no such buds it is better not to cut-back the growth at all.

We have not done much in this department during the past week except in continuing the pruning of Gooseberry, Raspberry, and Red Currant bushes. After clearing away the prunings we are now giving a dressing of manure, and will proceed to fork it in the ground as soon as we can do so. If Strawberry beds have been neglected the weeds will have made considerable progress, and they cannot be better disposed of than by picking out the largest by hand and giving a dressing of ma-

nure between the rows, afterwards forking the manure and small weeds under ground.

#### CUCUMBER HOUSE.

So far our plants have done well, and they will continue bearing as much as we require through the winter months, but the strain upon plants which have been in bearing for the last two months is trying to their constitutions. We shall sow more seeds or strike cuttings about the first week in the new year; and when the plants are strong enough to plant out, those that are worn out by winter bearing will be removed to give place for young plants. Our houses are well heated, and it is not difficult to keep up the temperature to 65° or 70°. In circumstances not so favourable, and where it would be necessary to overheat the pipes to maintain this temperature, it is much better to have some covering for the glass. An ordinary canvas screen thrown over it will make a difference of at least 5° in the night temperature. This will not only be a saving in fuel, but give also a more congenial temperature to the plants. About the shortest day in the year is the time that the plants require the greatest amount of attention. They must not suffer for want of water, nor must too much of it be applied to the roots. At a time when the sun scarcely shines at all, or if it does it is only "to blink a wee and sink again," its influence is scarcely felt on the temperature of the house. Still, unless there is a cutting frost wind we always manage to open the ventilators just a little at the highest part of the house for a few hours at mid-day. This daily change of air is very beneficial to the plants, and with care it can generally be managed without making any appreciable change in the temperature. We keep up a bottom heat of 85° by two rows of 3-inch pipes placed about 2 feet below the surface of the bed. We have found that by using all the evaporating troughs the atmosphere became too moist and caused a weak watery growth, but by using only one trough a more healthy growth was apparent. Should any thrips appear have the house smoked at once with tobacco. The leaves will not endure too much of it, and it is best to fumigate moderately three times at intervals of three days than to run the risk of injuring the plants by one very strong application of smoke.

#### GREENHOUSE AND CONSERVATORY.

When the *Chrysanthemums* go out of bloom there is considerable difficulty to supply their place, but gardeners with limited room will be glad to remove them, as they take up much space and do some damage to hardwooded plants. *Cyclamen persicum* is a useful and well-appreciated plant for producing flowers from now until the end of March, and by that time spring flowers, consisting of Dutch bulbs, will also be over, to be succeeded by different sorts of forced shrubs, *Roses*, &c. Hardwooded plants of different species require attention now, and time can be better spared for tying and training the plants at this season than at any other. Plants of *Azalea indica* are now shedding their leaves, and require to be gently shaken occasionally to free the plants from those ready to drop off. Thrips are very destructive to the *Azalea*. Persistent fumigation will destroy those insects, but in some cases it is not convenient to fumigate; then they may be destroyed by dipping the plants in a mixture which will also free them from any trace of red spider, which no amount of fumigation will destroy. Many of the mixtures advertised in this Journal will destroy thrips if applied according to the instructions which are given; but those who do not find it convenient to obtain such will find a certain remedy in the following:—To one gallon of rain water add 6 ozs. of soft soap and half a pint of tobacco liquor; put it in a pot and place over the fire until the water boils, let it simmer for ten minutes, and when cool the mixture is ready for use. With this syringe the plants after they have been laid on their sides, as the water running into the pots, if the plants were in an upright position, would injure the roots.

The damp weather has been injurious to some plants, causing mildew and mould. Sulphur, applied as directed in previous numbers, quickly checks the spread of mildew, and destroys it. The fires may be lighted by day, especially after watering. At such a time the ventilators must be open to allow moisture to escape. During the prevalence of dense fogs, so common at this season about London, it is better not to open the ventilators at all, and the application of artificial heat at such a time would be injurious rather than otherwise. All softwooded plants require to be regularly looked over, picking off any decaying leaves, and in the case of plants intended for large specimens tying out the growths. See that no insect pests form a lodgment on stage or fancy *Pelargoniums*, *Cinerarias*, or herbaceous *Calceolarias*. If these are thoroughly cleaned now, and kept clean during the winter, the plants will be healthy and give little trouble during the busy period of the year, when such work is apt to be neglected.

#### FLOWER GARDEN.

In calm weather the lawn should be thoroughly cleaned by raking and sweeping the leaves up from every part of it. Those that have found a lodgment in the shrubby borders must also be thoroughly cleared out of the most difficult places, else gusts of wind will on another occasion sweep them out on the lawn

to cause extra sweeping, which would otherwise not be required. In large places this gathering-up of leaves takes up much of the gardener's time at this season, and the leaves collected are not of much value, as they are frequently full of decaying wood, which produces fungus. Only leaves that have been collected from the open meadow or lawn should be used for leaf soil. It is better to have a fire, and burn the rakings of the borders as they are gathered; the ashes can always be used.

A coating of manure ought to be placed over the roots of *Roses*, to be forked-in after the bushes are pruned. A constant watch must be kept over hardy herbaceous plants. The more delicate species suffer from wet as much as from frost. We are confident that the shallow bottomless pans made of the same material as common garden pots would answer well to protect the tender sorts, a square of glass being placed over the pan to throw off the water, and this being tilted at one side to admit air.

Florist flowers, although they do not require much attention, cannot be neglected. The leather-coated grub has attacked the *Pink* in a persistent manner, and we have only saved the plants from its attacks by catching them feeding after dark at night. Large earth worms also get hold of the tips of the leaves, and they are strong enough to bend weak plants down and break them. It was necessary to strew the surface of the beds over with quicklime to stop their "little game." A steady frost would be much better for all florist flowers than so much wet. Tulips planted out early in November are now appearing above ground. Should very severe frost set in we shall cover them over with dry loam. Those planted later are more likely to do better in the spring. Anemulas are passing through a trying period. Every decayed leaf and trace of mould is removed as soon as it is observed. Should decay fasten on the centre of the plant its loss is almost assured. Carnations and Picotees have likewise certain severe trials to endure, even if the frames are watertight, which is not always the case. Many varieties are so subject to spot on the leaves that the utmost care cannot bring them through the winter free from this insidious disease, and it is much aggravated by the smoke and damp of London. We have this week gone carefully over the plants and removed all affected, stirring the surface of the pots at the same time with a pointed stick. Air is admitted freely on all favourable occasions to the frames of both Anemulas and Carnations.—J. DOUGLAS.

#### TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—*Amateur's Guide*, highly illustrated: also *Price Current of Garden Seeds, Potatoes, Bulbs*, &c.

James Carter & Co., 237 and 238, High Holborn, London.—*Vade Mecum and Seed Catalogue*, highly illustrated.

Ernest Benary, Erfurt, Germany.—*General Catalogue of Vegetable, Agricultural, Flower, and Tree Seeds*.

Joseph Schwartz, 43, Rue de Repas, Lyons, France.—*List of New Roses*.

Eug. Verdier Fils Ainé, 37, Rue Clisson, Gaze d'Ivry, Paris.—*List of New Roses*.

Louis Van Houtte, Royal Nursery, Ghent, Belgium.—*Catalogue of Gesneraceous Plants, Caladiums*, &c.

#### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

CRYSTAL PALACE (Artificial Flowers and Fruit). March 17th. NEWCASTLE-UPON-TYNE. March 21st and 22nd. Messrs. J. H. French, Benwell House, and J. Taylor, Rye Hill, Hon. Secs.

GLASGOW. March 28th and May 28th. Mr. F. G. Dougal, Sec. LEEDS (Spring Show). April 2nd and 3rd. Mr. A. Walker, Neville St., School Close, Leeds, Hon. Sec.

WISBECH. June 23th. Mr. Charles Parker, Hon. Sec. TONBRIDGE. July 18th. Mr. W. Blair, Sec.

ISLE OF THANET. August 30th. Mr. C. D. Smith, Hon. Sec.

#### TO CORRESPONDENTS.

WELLINGTONIA GIGANTEA.—"X." asks—"What is the height and circumference of the outside branches of the largest *Wellingtonia* in England?"

PRUNING PEAR TREES (*Somerset*).—We cannot give directions. Much depends upon the state of the trees, which have been greatly neglected.

BOILER (A. M.).—We cannot recommend one. Consult our advertisement columns and select the boiler that best suits your building, &c.

PEAR TREES DISEASED (A. A.).—They are attacked by canker, induced probably by the roots having descended into an ungenial soil.

BEST CLEMATISSES (H. Taylor).—*Jackmanii*, *Gem*, *Alexandra*, *Miss Bateman*, *Lady Bovill*, *Lady Lonsborough*, *Star of India*, and *Mrs. James Bateman*. You ought not to cut them down after flowering.

CAMELLIA FORGING (Felix).—We think you may move the plants from the greenhouse to the stove, placing them in the cooler end of the latter, where the temperature does not exceed 55°, and using a little weak manure water.

SUPPORTS FOR PEAS (*Mackenzie*).—Galvanised iron rods placed 6 feet apart, and net of the same material with very wide meshes, answer well.

EXCLUDING RABBITS (N. J. M.).—We have excluded them by placing near



the hedge galvanised iron netting 2 feet high above the surface, and 6 inches below it. They never burrowed under that.

**GESNERA EXONIENSIS NOT FLOWERING (E. L. W.).**—We think the cause of the plants not flowering is due to their not having a sufficiently high temperature, or it may arise from their having been started late. To do well they, after September, require a light and moderately airy situation in a stove, and to be daily supplied with water. We afford ours a temperature of 60° at night, and 65° to 70° by day, and they flower very freely. *Enicodonopos* flower less freely generally than *Gesnera exoniensis*, and we think both are grown in too low a temperature, and have not sufficient light, and are probably too dry at the roots.

**PRUNING CLEMATIS (E. W.).**—Pruning is best done in February, or so soon after as mild weather permits. In pruning, all the old wood should be thinned out, especially leaving the young shoots of last year at such distances as to cover the bed, shortening these shoots to firm ripe wood. The early-summer and late kinds require the same treatment. The best time to insert cuttings is in spring when the shoots are 2 or 3 inches long, taking them off with a heel of the old wood attached and placing in sand in gentle heat, keeping them rather close, moist, and shaded.

**LILIUM IN BEDS (Idem).**—Do not take up and replant, but top-dress with sweetened rich compost 2 or 3 inches thick. Turfy loam and vegetable refuse in about equal parts is a capital application.

**HEATING APPARATUS DEFECTIVE (R. F. B.).**—From the water being heated in the supply cistern which communicates with the lower or return 4-inch pipe shows that the water as heated by the boiler flows equally by the return and flow pipes, there being, in fact, no circulation. Are you quite sure that the flow pipe in the greenhouse is above the coil pipe of the boiler? The flow gradually rising from the boiler to the air pipe, the head you allude to in the return pipe ought not to interfere with the circulation unless air lodges at the elbow, which we do not see can take place. It would have been better without the elbow. Satisfy yourself first that the flow pipe from the boiler has a gradual rise from it to the air pipe, and that the return pipe from the air pipe falls gradually to the return of the boiler. There can be no air in the pipe in that case, as it will rise to the highest point—the air pipe, and escape. We apprehend your pipes are on the level alongside each other, and there is no circulation because the heated water rises both by the flow and return pipes—boils in the boiler and pipes adjacent. It may be only a case of overheating, for we see nothing in the bend of the return pipe falling from the air pipe to the bend to impede the circulation. The removal of the bend and lowering of the return to meet that of the boiler is proper, but if the flow rise to and the return pipe fall from the air pipe the elbow may remain. The fault is not in it. You will easily know whether it be a case of overheating by feeling the pipes. If not, the water being driven out at the pipe is a consequence of the water in the apparatus being heated to an uniform temperature, boiling and blown off because a vacuum is caused by the generation of steam.

**STARTING PINES (W. W.).**—The large "lanky" plants are less likely to throw up fruit than the stiff strong plants, but we should nevertheless give them a trial; and, if they do not start with the others, continuing in the higher temperature, and they will probably be little later, if any, than the others.

**ANEMONE FULGENS.**—"G. S." says—"The glowing descriptions given of this plant have induced me several times to purchase tubers. Plants I have, but flowers none. Will any successful grower tell me—1st, Is it better to leave the tubers all the year in the ground, or to dry and replant them, and when? 2ndly, Is stiff or light soil the better? 3rdly, Sun or shade?" Any of our readers who have cultivated this flower successfully will oblige by sending the information asked for.

**CLIMBING PLANTS FOR WALL (J. P.).**—*Passiflora cærulea* is very pretty and quite hardy except in very severe winters. *Wistaria sinensis* would be quite hardy, and would be a noble object on a 16-foot wall. You probably allude to *Clematis Jackmanni*; the flowers are violet purple, large and fine. Roses will not succeed in London.

**SHRUBS FOR SMOKY DISTRICTS (Idem).**—*Ancuba japonica*, in variety; *Arbutus*, in variety; *Phillyrea media*; *Holly*, in variety; *Berberis Darwinii*, *Japan Privet*, *light-growing Box*, *Laurus nobilis*, *Cerasus laurocerasus* (common Laurel), *Mahonia*, in variety. All the above are evergreen. The following deciduous species will be suitable—*Amygdalus communis* (the Almond), *Crataegus*, in variety; the *Flowering Currant*, in variety; *Spiraea*, in variety; *Syringa*, in different species and varieties, including the lilac; *Weigela rosea*. It will improve stiff clay to mix sand with it.

**ARRANGEMENTS FOR A HEATING APPARATUS (H. T. Frampton).**—Cut the existing supply pipe between the boiler and greenhouse for a junction with two valves—one to control the greenhouse pipes, and the other those in the new houses. From this junction carry a flow-pipe straight to the nearest point of the new houses, continuing it along outside so far as the partition, branching off into both houses at any convenient point, and having valves fixed in both these branches so as to enable you to shut off the heat from either compartment at will. The return-pipe could, of course, be connected with that of the greenhouse. For such small houses an extra amount of piping is advisable. A single 4-inch pipe will, however, be quite sufficient for the cool house if it is carried all round it, and a couple of the same-sized pipes running all round the hothouse will render forcing an easy matter, even in the coldest weather. Rings of vulcanised indiarubber are preferable to cement, as from their pliant nature they yield to the expansion and contraction of the pipes; only make sure that your joints are rendered quite watertight in the first instance, and you need fear no subsequent failure. The elevated position of the new range points to a little future trouble in regulating the valves, it being quite clear that checking the flow to the higher level sufficient heat could always be thrown into the greenhouse. The connections between the old and new piping may be of 2-inch pipes.

**PROPAGATING CHRYSANTHEMUMS (W. P.).**—Select the stout, short-jointed, young shoots and treat them as detailed in our pages by Mr. Hall, Mr. Harding, and others. The name of the shrub is *Cotoneaster microphylla*.

**FORCING LILY OF THE VALLEY (Old Subscriber).**—We can only advise you to plunge the pots in leaves or cocoa-nut fibre refuse, covering the crowns 3 or 4 inches, and keeping in the temperature you name, or slightly increasing it, and if growth is not perceived in three weeks you may conclude that the crowns are dead in consequence of their long detention at Rotterdam.

**STOCK FOR PEACH TREES (M. C.).**—For open-air culture, or for under glass, the Musclem Plum. They are never budded or grafted on the Quince. You do not seem to be aware that a bud or graft will not unite to a stock not in some degree related to it.

**SUTTON'S MAGNUM BONUM POTATO (D. D. W.).**—The greatest weight of this variety from 1 lb. of seed which we remember to have noticed was 267 lbs., exhibited at Reading by Major Thoyte.

**SMALL-LEAVED IVIES (N. C.).**—The following have variegated leaves:—*Hedera marginata grandis*, *H. marginata rubra*, *H. marginata major*, *H. minor maculata*, *H. chrysophylla*, *H. argentea*, *H. aurea*, and *H. elegantissima*. Cultural remarks may be found in another column.

**DESTROYING WEEDS ON WALKS (G. F.).**—Mr. W. Sowerby of the Royal Botanic Gardens, Regent's Park, reports that for killing vegetation, and preventing its growth on gravel walks, he found that carbolic acid in very dilute solutions (No. 5 quality in one hundred parts water), was the best, retaining its effect longer than any other.

**NAMES OF FRUITES (E. M. Stone).**—217, Josephine de Malines; 163, Nouveau Poiteau; 203 and 108, Vicar of Winkfield; 95, Josephine de Malines; 54 and 55, Susette de Bavy.

**NAMES OF PLANTS (A. Boyle).**—It is a Begonia, and we think it is *B. coccinea*, but the flowers were smashed. (W. W.).—*Escallonia rubra*.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### BIRMINGHAM POULTRY SHOW.

It is the twenty-eighth Birmingham Show, so the catalogue announces. The schedule has been much altered and modernised, not entirely for the better. The general arrangement, we regret to say, has not been altered. The old pens are becoming so dilapidated that several serious accidents have occurred from birds breaking and fighting through their patched sides. A large number of birds including French and Hamburgs are shown in zinc pens suitable for Bantams, but so small that their inmates cannot possibly show their size or carriage. The temperature in the Pigeon gallery is towards evening unsupportable from the heat from the gas, and the whole poultry annex unpleasant from its constant escape. From the single-bird system having been adopted there is this year an increase in the entries, though a considerable decrease in the aggregate number of birds shown, as well as a decline in their quality. The changes for the better, which we are pleased to recognise, are the divisions of the adult and young birds in the Polish and Hamburgs. In the case of Polish, in which full development of the prime feature—viz., crest, is impossible in the first year, this classification is a great boon. In the case of Hamburgs we can see no use in it; they do not improve by age, neither is size a desideratum in them, consequently young and old birds can at this time of year compete on perfect equality. There are some excellent classes in the Show, notably so the Cochins. Probably this is from the endurance of the breed under painful circumstances, but taken all round the Show is a very moderate one, not to be compared with the Crystal Palace generally, or with Oxford in the display of Pigeons and chickens of the year. It is a pity that with all its prestige Birmingham should have descended into the rank of second-rate shows. We have before now written in its favour, but to do so further while it remains as it is would be to desert the cause of humanity towards birds.

**BRAHMAS.**—The first class were adult Dark Brahma cocks (twenty-nine entries). This was a very good class. The first was a large grand-shaped bird, with good legs and feet, well feathered and beautiful in colour. The silver cup value £10 for the best Dark Brahma in the Show was awarded to this bird. The second, a very rich black-breasted bird with beautiful broad green-black bars, was in excellent condition. Third the same that was third at Bristol; he has a good head, breast slightly ticked with white, and rather long in the back. Fourth a very good bird, but out of condition. Several other birds were noticed in this class. Dark Brahma cockerels had forty-five entries. The class, with the exception of the first-prize bird, was far behind those exhibited last year in quality. The first was Mr. Lingwood's beautiful-headed bird that won first at both Crystal Palace and Bristol. He was very far ahead of any other bird in the class, and ran hard for the £10 cup. The second slightly ticked in the breast, otherwise a good bird. Third evidently a very young bird, and rather weak in legs, large, good in colour, and likely to make a grand bird. Fourth another late-hatched bird, beautiful in colour and neat comb, but at present looks rather leggy. Fifth a grand bird that has won at several shows, now getting a little loose in condition, especially in his wings. Dark Brahma hens, thirty-seven entries. The first is beautifully pencilled throughout, but slightly twisted in hackle; her ground colour for a hen is very clear and beautiful. Second a far better shaped bird and well pencilled, but not so even in marking as the first or so good in ground colour. Third large bird, good in shape. Fourth beautiful in marking and shape, but red in ground and rather hooked. Several other good hens received notice; Messrs. Newham & Manby had a beauty, but she was too high in the back. Dark Brahma pullets were a large class of fifty-four entries. The first was the Oxford, Crystal Palace, and Bristol first-prize bird; in beauty and evenness of pencilling she is grand, and her ground colour is exceedingly clear. She is also well feathered, and her pencilling all alike, from her neck to the tail, and from her throat to the end of her

feet-feathering. The second was from the same yard, and quite as clear in ground colour, very equally pencilled, the pencilling a little broader than the first, and to all appearance a younger bird. The third was also well pencilled, but not quite so clear in ground colour. Fourth a little too light in front. Several other well-pencilled pullets were exhibited in this class, but in many the ground colour was too brown. The class as a whole was much better than the cockerels. Light Brahma cocks had twenty-two entries. The first and £10 cup for the best Light Brahma in the Show went to Mr. Horsfall's grand Palace and Bristol winner; he is a massive bird and won easily. The second is also a good-coloured bird; the third and fourth are also good. The class was far better than the cockerels. Light Brahma cockerels was a large class of fifty-one entries. The first a large bird, good in colour and well feathered; he has all the appearance of making a first-rate old bird. Second has won at several shows, and is a grand bird, but here had a curiously twisted hackle. Third a large fairly coloured bird and well feathered, but he has got his hackles quite if not worse than the second, apparently with being over-exhibited. Fourth a fine bird, but not good enough in colour. Fifth a very pretty bird in all respects, but rather small. Light Brahma hens were a splendid class of thirty-two entries. The first, second, and third were very equal and first-rate in quality; the fourth a large beautiful-coloured bird, but rather too leggy. The Light Brahma pullets were a beautiful class of fifty-seven entries. The first had a beautifully marked hackle, very deep yellow legs well feathered; she was in grand condition. Second was also a great beauty, good in shape, well-marked hackle, and clear in white. The third was a large bird, very pure in white, and well feathered. Fourth very pure in white, with good well-feathered legs and feet, well marked in neck; she appears young and likely to make a good bird. Many other birds were noticed in this class, which was a very good one. The Brahma Selling class for cocks were only a medium lot; the first were Dark, second Light, and third Dark. The Selling class for hens was much better than the cocks, and some cheap bargains were held out here; no doubt the prize birds would run up at the auction.

**DORKINGS.**—The falling-off in Coloured Dorkings is astonishing; we know of five eminent breeders possessed of splendid chickens, who contended themselves with the laurels of Oxford, the Crystal Palace, and Bristol. The first two cocks were ahead of the rest in size, and good Dorkings in shape; third a well-shaped bird with a poor small comb and bow legs. The cockerels numbered twenty-six; we remember 75 at Birmingham! they were a poor lot; certainly but one, if one, would have been in the Palace list. First a long-legged bird, fair all round, dark in colour; second a smaller and lighter bird with suspicious marks as if he had had sprigs on his comb; third much better in shape, but a bad Silver-Grey in colour; fourth a dark bird, very brown on wing, his comb ugly and tilted forwards; fifth too long on leg and chicken-like, but much the best of the prize birds. We should certainly have put Mr. Walker's commended bird first or nowhere; he looked very antique for a bird of the year. Mr. Baker's highly commended bird was a very fair one with a bad comb. Hens were a better class; first, a splendid bird a little long on leg; second, a long bird with a rich brown breast, a little dark in feet; third, a good well-shaped bird. 447 (Mrs. Arkwright), good in form and white in feet, nearly black in colour. Pullets were poor; first a bird very like her owner's second-prize hen, sooty in feet; second, square and good, with a most matronly look; third a fair-size bird, good in shape and colour, and a veritable pullet. We should have put her first. 463 (Dr. Snell) seemed ill. The arrangement of baskets is such (they are packed closely in a subterranean limbo) that it is impossible to get one out, and so sick birds cannot be sent home.

**Silver-Greys.**—The only really good bird in the cock class was Mr. Cresswell's Bristol cup-winner. He was put into a broken pen, fought all night with his neighbour, and was in a sorry plight when the Judge came round. The same thing happened to one of Mr. Matthew's Game cocks. It is positively shameful that an entrance fee of 8s. cannot command the use of a pen such as could be bought for 5s. The first-prize cock was a very poor bird, with no distinct fifth claw on one foot; second fair in shape, but orange-coloured on the wing. Cockerels were much better. Ten out of the twenty shown were claimed on the first day, among them Mr. Cresswell's unnoticed bird for fifteen guineas. First a fine upstanding bird, with good comb and feet, a little yellow in hackle, and spurs inclined backwards; second good in comb, but very dark in feet; third a pretty smart little bird, which found a purchaser at the auction; 485 (Burnell) a grand bird, but his comb is going over; 488 (Cunningham) a pretty bird. Hens were few; first a beautiful bird, the Palace cup-winner; second brown and indifferent. We much preferred the Bristol winner. The first pullet was a pretty little bird, which must have won from her bright condition; her feet are very dark. Second too narrow, but exquisite in colour; 500 (Mrs. Colville) a nice bird, with a bad toe; 504 (Burnell) large, but not looking her best.

Whites are always good classes here, from the Show being the only one where chickens and adults both have classes. The first cock was well ahead; he has a large and good comb, but swollen feet. Second a fair bird all round; we should have put Mr. Boissier's highly-commended bird in his place. Lord Sudeley was fortunate in getting a highly commended for a bird with terrible feet. The oup cockerel is certainly an immense and massive bird, but rather sunburnt. We almost prefer Mrs. Hayne's second-prize bird, the Palace winner. In the class for hens Mr. Cresswell's Palace cup bird was in our opinion much the best, though the cup hen is a square fine Dorking; second was very poor and a mistake. The pullet class contained several fine birds. The first bird was very pretty and good in comb; second good in shape but yellow. We thought Mrs. Hayne's as good as any. The Selling classes were a more rubbishy lot than usual.

**COCHINS** were throughout good classes. As we have said, we attribute this to the hardness of the breed, and the consequent confidence with which their owners hazard the dangers of Birmingham.

The first Buff cock was a fine upstanding bird, short on leg, very bright and even in colour, with good though rather stiff leg-feathering. Second longer in leg and lighter in colour. He was shaky on legs and down in tail, and we did not like the award. Third as good as any; a little white on tail. Fourth a very nice bird with buff tail; not quite so uniform in colour as some, but capital in shape. We must say that in spite of his not looking very bright we should have put Mr. Burnell's grand old highly-commended bird high in the list. Cockerels were a fine class. First Mrs. Tindal's beautiful bird, not looking at all as he did at the Palace; his comb went over terribly with the warmth of the Show. Second a well-shaped bird, inclined to canary colour. In most ways he took our fancy much, though far too pale on the back. Third not large, but a very nice bird; fourth large, rather dark; fifth disfigured by white earlobes and a black tail. In hens Mr. Procter's splendid bird was first-and-cup. She is of a very even pale buff throughout. Second a fine hen all round; not equal to the first in size. Her colour is medium, her comb too high. Third large, fine in shape, and feathering; a little ticked in neck hackle. Fourth we believe the first Palace bird. Her comb is very shaky and her legs long, and we did not think the award a good one. Beyond the prize birds there were several nice hens. 649 (Fowler) bad in comb, but very good in colour; 645 (Darby) good all round; 661 (Tomlinson) small and good in colour; 663 (Ryland) very fair. The class was a very strong one. The first pullet was good in size with fine thigh fluff; she might have a little more shank-feathering; her colour is of medium darkness. Second a good pullet throughout; a little long in back. Third smaller but shorter in back; her shape fair, her colour a little dead. Fourth small, but bright in colour. Fifth large and well shaped, with bright neck hackle, but back colour not very sound. We could not imagine why a beautiful pullet of Lady Gwydyr's (669) was not among the winners. 677 (Tomlinson) a fine pullet, a little high on leg and with twisted hackle; 683 (Gwynn) bright in colour with hardly any leg-feathering; 684 (Procter) worthy of notice; 687 (Burnell) good.

**Partridge.**—Cocks were a splendid class, the cup bird was in colour far ahead of all the rest; his shape and comb are capital, his foot-feathering a little broken. When we saw him on the second day of the Show he seemed suffering much from a terrible draught which rushes in from the great hall into the heated annex. Second, as well as the cup bird, short-legged, a broad and massive bird, darker in hackle than the first; his foot-feathering is singularly fine for a bird not hocked. Third a taller bird than the other two winners, very dark in neck-marking; 704 (Tudman), capital in shape but a little white in tail, and a little tinged in fluff; 707 (Tomlinson), wonderful in breadth. The cockerels were not so even a class; the winners being very good, but several very poor birds in the class. First a marvellous bird in size, he would quite compete with the adult cocks; his comb is high and weak, and may, we would fear, go over. Second, another very fine bird, better in comb and running the first hard. Third not so large; a darker bird in hackle, with good black fluff but scanty leg-feathering. Hens.—The cup went to a beautifully pencilled hen, fair in size. Second quite as good in shape, but not in condition and marking. Third, small and well shaped, with breast prettily marked. The class was not a remarkable one. The first pullet was marvellous in marking, like a very well pencilled Dark Brahma; her comb is too high and her shape only fair. Second a grand pullet in size and shape, but deficient in marking; she was next to the cup hen, and certainly looked as large. Mr. Burnell's very highly commended pullet was prettily marked.

Whites were good classes all round. The cup cock was a magnificent bird, his feathering very heavy. His back does not rise towards the tail quite to our fancy. He is the bird that was so unaccountably left out of the Crystal Palace list. Second long on leg and stilty. Third much smaller, but well shaped and well feathered, a very pretty cock. We liked Mrs. Tindal's bird; Mr. Boissier's too, the Palace cup bird, we thought worthy

of a notice, though he is apparently a little overdone. 768 (Tomlinson), not good in colour, but nice shape. Cockerels were not very remarkable, the two first winners being very long on leg. The first bird is very white and has a fair amount of feathering. Second a bird of much the same type. Third, White, but a little rough in wing. Hens were a capital class. First a grand hen, perfect in shape, a little scaly on legs; we think the second quite equal to it. Third was larger than these two, but not nearly so perfect a Cochon in shape. 800 (Warde), a well-shaped hen but hocked and minus tail; 804 (Percival), good but twisted in back. Pullets were hardly so good, several of them being badly shown. First a fine well-shaped bird good in cushion, a little overhocked. Second quite as good in shape and fluff as the first, but not so large. Third an immense bird, too long in leg and back; we preferred 805 (Tomlinson).

*Blacks* continue to improve. The cocks were in a fair light, the hens in a very bad one on the ground; but Mr. Hewitt took immense pains in judging them to see their colour fairly, having them put into baskets in a full light. The first cock is a bird of the year; he certainly is small but well shaped, and with a beautiful green gloss. Second a tall Langshan-like bird with a bad comb; his only merit was his green colour. 825 (Darby) was by far the best shaped and best feathered bird in the class, but some accident has evidently happened to his comb, and his full colour has not yet come out from the moult. We also admired Mr. Storer's highly commended bird. The hens of this variety when shown well are certainly lovely. First was a splendid bird all round, and second also good, but we cannot pretend to criticise their colour in such a wretched position.

*MALAYS* were very good classes and the competition strong, but to our thinking the Judges in making their awards went more for utility and beauty rather than following the old type of the breed. Malays have always been notorious in the public eye for their ugliness, but there is no doubt there is not a more useful fowl for table purposes, whether crossed with the Game or the Dorking, whereby those portions of the bird most esteemed when on the table are best developed. We always thought, however, that extreme development, broad shoulders, high hocks, and vulture neck were the proper characteristics of the breed, and which should be more closely adhered to in the show pen.

*THE FRENCH BREEDS* were better represented than usual, Messrs. Mackwell, Burrell, and Stephens showing some capital *Créoles*. *Houdan* cocks were a very meritorious collection, but we cannot say so much for the cockerels, which we thought, as a lot, were not up to the mark.

*SPANISH* were small classes. In old cocks only two put in an appearance, neither of them good in quality. Spanish cockerels, with the exception of the cup bird, the second-prize bird, and one highly commended, were a very poor lot, very different to such as we have seen at this Show. Spanish hens were a very good class, as were Spanish pullets, especially the first and second-prize birds.

*HAMBURGS* for the first time, as we have said, had separate classes for adults and chickens. As a rule Black Hamburg cocks retire into private life after their first year. It may be some slight advantage that they are now able again to be shown, but still with tinged earlobes they do not compare favourably with cockerels. The pens in which the Hamburgs were shown are far too small for any cock of the breed to show himself off properly; but, as if this were not enough, they were made to overlap each other, so that the birds could not stand without scraping their tails against the wire. Black cocks were not grand; the merits of the cup cockerel were good carriage and a good spike to his comb, his earlobes were puffed and his tail almost devoid of side feathers. Second was a beautiful bird in carriage. Among the highly commended birds were some very nice cockerels, 1126 and 1134 (Serjeantson), 1128 (Stott & Booth), 1131 (Pickup). We did not like the first hen, and many people thought her a pullet; her tail is far too broad. Second was a pretty bird in head. The first pullet had a pretty but rather heavy comb and a good head; second far too purple a tinge. The awards in these classes did not seem to satisfy the fanciers of the breed, the Judge having apparently paid more attention to the heads of the birds than to their colour. The first Golden-pencilled cock was very good, particularly even in colour all over, and sound on breast, and his tail well laced; we should have given him the cup before the cockerel. The latter had a neat and pretty comb, but his tail was almost barred. Second cockerel had not much style, but a honest comb. The first hen was good all round, with medium breadth of barring, capital in tail. We much liked the second hen for her fine, small, distinct barring, though, as is generally the case with such birds, her hackle is not clear. The first pullet was much the same type of bird, rich in ground colour and a beauty; second a nice bird, but not so good in wing or tail. Only one cock put in an appearance in the class for Silver-pencils, a fair bird, with only an attempt at tail-lacing, and comb too shiny. The cup cockerel had a pretty tail and a manifestly improved comb; the second cockerel had not the style of the first, still we should have put

him first for his honest comb; his lobes were a little tinged, but apparently from a fight. The first hen was nicely barred, the second too heavily so. The first pullet was rather patchy on the breast, but otherwise well marked; the second generally equal to her, but bad in comb. The first Silver-spangled cock was good in comb and heavy in spangling; second not his equal in comb or marking. The first cockerel was nice all round. We regret to say that a pin was extracted from the front of his comb; we forbear from commenting upon this horrid piece of cruelty, for various circumstances incline us to believe that it was not put there by the exhibitor. The authorities were most courteous in showing us the place from which it came, and anything more purposeless than placing a pin in such a position, where it could not possibly improve the comb, we cannot imagine. The second cockerel had a narrow comb for a Spangle, pretty sickles, and nice moderate-sized mooning. The hens numbered only three, all good birds; the second-prize birds were very even, the first being best marked on the wing but a little heavy in comb. The first pullet was a beautiful bird, with even mooning, but too heavy for our fancy; second a bird with smaller spangles. In Golden-spangled cocks first was a bird apparently rich in colour and certainly well marked; his tail was broken by the pen. Second had not so good or natural a comb; probably his carriage would be good in a proper pen. The first cockerel was good in hackle and mooning, and magnificent in comb, which we hope was natural; second a nice bird in carriage. We regret that we cannot criticise the classes for hens of this breed, as we could not succeed in finding them. After the cockerels came a row of empty pens, and then some Bantams. The numbering of pens throughout the Show was purposeless and perplexing; here it defied comprehension.

*POLISH* generally were excellent, and we were glad to see the old White-crested Blacks looking up again. They are now much better than they were a year or two back, but still nothing like the birds which Mr. Edwards used to show some ten years ago. In no class, however, is improvement more noticeable than in the Golden-spangles, which at one time went down to a very low ebb, and it is now not uncommon to see them in exhibitions where the colours compete together carrying off the honours over the Silvers. The first-prize old cock has a large well-shaped crest, and capital colour; he is the Crystal Palace cup-winner, and was shown in fine trim. The young *Golden spangled* cocks were the largest class of *Polands* in the Show, and contained a number of fine specimens. The first prize went to a bird of excellent colour and crest, but very round-backed. The second (Beldon) is not so good in crest, but will improve considerably when properly through his moult, and we think owing to the defect in the first bird he was entitled to chief honours. Old hens were a good class of six. First the Palace winner, and a more beautiful colour or better marked hen we think we never saw. The second was not far behind her, shown by the Duchess of Hamilton, a new name to us as an exhibitor in the variety. Pullets were also a good class; first attractive in colour but small in crest, but the second was our fancy for pride of place, although we should have preferred No. 1311 (Shepherd) if she had not possessed the same defect as the first cockerel. *Silver-spangles* were as usual the cream of the Polish classes. In cocks Mr. Adkins deservedly took first and cup with a fine old bird, being hardly pressed by Mr. Beldon's grand old crack, but not looking quite in his usual fettle. No. 1316, the property of the Countess of Dartmouth, is a beautiful bird if it were not for a yellow tinge in his feather. We think there was no bird in the Show with a better crest than he has. In cockerels Mr. Adkins was again first and second, but we decidedly preferred his second bird to its more successful *confrère*, being a better bird all through, while the first is rather straggling in crest. We specially admired the Silver-spangled hen with which the Countess of Dartmouth was first. The Silver-spangled pullets only mustered four, but all were good and with little to choose between them.

*SILKIES* had but three entries. Both the winning pens were good, the first best in leg-feathering and justly placed we think; but the second were very elegant in style.

*ANDALUSIANS* were a nice class, the winners well selected in our judgment. The first cock was fine, with a stiff and good comb, and the hen immense for the breed. In the second pen was a very rich-coloured cock, a little white in face.

*LEGHORN*.—A nice pure white pair came in first, a Brown pair second; their colour seemed much brighter than we are accustomed to see in this breed.

*ANY OTHER VARIETY*.—First were a grand pair of *La Flèche*, second capital Scotch Greys. We should much like to see this hardy breed more known in English farmyards. Third beautiful crested African Guinea Fowls. Some curious and interesting Indian Game were shown by Mr. Montessor and Mr. Dutton, and some excellent bearded *Sultans* by Mr. Shaw.

*GAME*.—Among the Game the best classes were the *Brown Red* cocks and cockerels, and the *Brown Red* pullets. The *Black Reds*, however, were better classes than usual. *Duckwing* cocks were fair, but the hens were not equal to former years. The

Blacks were inferior as a class, their greatest failing being dark eyes. Pile cocks were only a moderate lot, but the hens were better.

**BANTAMS.**—There were very few first-class birds among the Game Bantams, it being difficult to find a really superior specimen among the *Black Reds*; the best, however, were those belonging to Messrs. Morris, Fletcher, and Addie. In the other Game classes, however, Mr. Fletcher's *Brown Reds* and Mr. Brownlie's *Piles* stood very prominent in their various classes. All the other classes except Game were marvellously good, and the *Seabrights* held their own for beauty against all new comers, and were well represented. We were glad to see the *Silver-laced* assuming the pure frosted-silver ground colour for which twenty-five years ago they were so notorious. The *Golden-laced* were also remarkably good, with those peculiar traits of character which mark this distinct breed (hen tails and hackle), exceedingly well developed in the cocks, a feature which had unadvisedly been lost sight of for many years past. *Blacks* were very good, though limited in numbers. In the first-prize pen of *Whites* were such as we have not seen at any show for some years past. They were simply grand. In the Any other variety classes the first prize went to light-coloured *Japanese*, and second to *White-booted*. A pen of extraordinary *Friszled* fowls of remarkable quality were also shown in this class, but the hen had the fatal objection of being Dorking-toed. We also noticed several pens of *Cuckoos* of highly meritorious character. In the *Selling class* for Bantams the first were a good pen of *Light Japanese*; second also good *Blacks*, and the third *Duck-wing Game*. This was a very good class, comprising several capital pens of the leading varieties, many of which were not long in finding customers.

**DUCKS.**—*Black East Indian*.—This is one of the classes which tries the mettle of a judge, perhaps more than any other variety which can be placed before him to adjudicate upon, and we were glad to see in this instance Mr. Hewitt had every bird out and examined in hand, although the class was an extensive one, and the result was that the first and second prizes followed in the same groove as at the late principal shows, the third going to a new comer; but a more equal quality throughout the whole classes perhaps never existed.

**DUCKS OR ORNAMENTAL WATERFOWL.**—Five pens of *Mandarin*s were shown in the class expressly for that breed, and certainly never before were five pens of so perfect and lovely conditioned birds seen side by side. The first prize went to a pen which were admired by almost every visitor to the Show. *Carolinas*, for which also there was a special class, were scarcely less remarkable for beauty and condition. *Call Ducks* (open to White or Grey), only two pens were exhibited, both Grey, and by the same exhibitor; but we never remember seeing any so good since the time of Harvey, Dutton, and Bailey, who exhibited some ten or twelve years back. The most fastidious could not find fault with them.

**Ducks or Ornamental Waterfowl**, which is a class open to any variety of Waterfowls for ornamental purposes was a very large one. The first prize going to Pekins, remarkable for their excellence. We believe these are the coming Ducks for utility, and will eventually beat the Rouens and the Aylesburys. A better pen than Mr. Fowler of Aylesbury showed has never been exhibited. They were, however, closely followed by a pen from Mrs. Troughton, which were very highly commended. The second prize went to Whistling Ducks of the autumnal variety. And half a dozen extra prizes might with perfect justice and the greatest ease have been apportioned in this class.

#### PIGEONS.

Several alterations have been made in the Pigeon classes, the principal of which has been to raise the first prizes throughout from 30s. to £2 again—a very commendable alteration. The third prizes, however, have been abolished in all the Pouter classes, Short and Long-faced Tumblers, Barbs and Trumpeters, as well as one of the first prizes in the new Variety class. Exhibitors in those classes cannot grumble at this alteration, for the entries therein have always been very small, and we have not the slightest doubt but when the classes are better supported the old state of things will be restored. Among the other alterations is the abolishment of the guinea subscription, which has hitherto deterred many fanciers from exhibiting, but who are now enabled to send two or three pens at a fair and proportionate charge to the amount offered by the Society for competition. Many a time have we along with others advocated the propriety of this alteration, but hitherto all efforts have been unavailing, and we cordially welcome the spirit which now seems to prevail the poultry Committee, and hope it will meet with a suitable response from the fancy generally. The previous announcement of the Judges' names was another instance of their desire to comply with the spirit of the times. But we should very much like to know also how the work is to be apportioned. New classes were this year opened for young Dragons, Dragon hens, young Antwerps, and Antwerp hens, and towards the additional money thus offered a few members of the Birmingham Columbarian Society who are interested in the varie-

ties specified contributed ten guineas. The care of the birds was again placed in the skilful hands of that old and experienced fancier, Mr. J. W. Edge, who seems never to tire in looking after his charges. Whenever and wherever we looked into the pens the evidences of cleanliness and comfort were always to be seen. We should only like to see Mr. Edge's services brought more generally into requisition. One alteration we should very much like to see, and that is the abolishment of the Pigeon pens altogether, and an entirely new and more modern set substituted. By this means the Society might double the space at their disposal, and the birds would be better seen and better judged, for we feel sure this is the principal cause of some of the errors of judgment which took place at Bingley Hall last week. The birds ran into the dark corners of some of the pens, and by no amount of poking or exertion of any kind would they allow themselves to be fairly inspected. We are glad to see the point out done away with this year. The total entries are 669, against 541 last year, and the quality throughout is the best which has been seen in Bingley Hall for some years.

**Carriers** generally were a great improvement on the Bingley Hall Show of the last year or two, the general quality being far more uniform. Old Black cocks mustered seven, the cup for the old birds going to Mr. Maynard's Crystal Palace cup-winner. He is one of the best birds for head properties we ever saw, and if he could only be provided with a new body to match he would be a wonder indeed. The second (Fulton) is a bird of high quality in all but the beak-wattle. Third (Siddons), very large and good quality of eye, wonderfully narrow skull, and a good colour, but rather fine in wattle. The class generally was a good one, and the prize birds we thought rightly placed. In Black hens we specially admired the one with which Mr. Fulton stood first. A little small she certainly was, but in other points to our mind she was a model Carrier. Why the second bird received her honours we could not understand, for she seemed to have no particular property to recommend her; she was out of condition and had a lump on her wing. Third was Mr. Maynard's old hen, a bird of good shape. We should have preferred to either of these Mr. Yardley's highly commended bird 2042, which is possessed of many excellent properties. **Dun cocks.**—First a good bird, but wants a little more neck; capital in eye and wattle, but a little down-faced. Second not so good in beak-wattle as first and rather wide at back of skull, but a good colour. **Dun hens.**—The class fairly good. First a good colour and deserves her position, but is not quite perfect. Second also a very nice hen, but we question whether she will ever make up. In Carriers, any colour, we thought Messrs. Stretch's second-prize bird ought to have been first. Black Carriers hatched in 1876 was an excellent class, but we thought Mr. Maynard was very lucky in carrying off the cup. It was the general opinion that this class was not well judged and the best birds were unnoticed. We think first and second might have been found in 2065 (Mrs. Hallam), the first Peterborough and second Bristol bird, and 2068 (Fulton), a fine racy fellow, but wanting a little more eye. We should not have minded Mr. Maynard's third-prize retaining its position, which was a very stylish bird and a hen. Two or three unmistakeably old birds were shown here. Carriers, any colour, hatched in 1876, only mustered eight, and those mostly Duns and not superior. We liked 2086 (Kempton), a highly commended. The general opinion was that he is not a this-year's bird, but on close examination we thought he was really a young bird and ought to have been first. We did not care for any of the other birds.

**Pouters** as a whole were the best lot which has been in Bingley Hall for some time. The classes were not so large as at the Palace, but the quality was well represented. The Blacks, both cocks and hens, were generally the best. In Red or Yellow cocks Mr. Pratt was first with a bird of this season, but we preferred the second to him, and would have given second to either 2095 (Gresham) or 2097 (Fulton), both of which were better birds. **Red or Yellow hens.**—The first (Gresham), a Red, thoroughly deserved her honours, being a good colour and a very showy bird. Second we would have passed, as she was more fit for a breeding loft, being too thick, heavy, and coarse for the show pen. The prize in our opinion ought to have gone to Mr. Pratt's Yellow (2099), which was only commended. **Blue cocks.**—The cup bird (Fulton), a fine long slender bird with beautiful limbs. Second again, we should say, was a hen also wrongly placed, and we preferred 2106 (Watkin), to him. **Blue hens.**—First a showy bird, and first also at the Palace. Second rather thick in girth, and nearly swallow-throated. **White cocks.**—The first prize should have gone to 2119 (Pratt) highly commended, which was by far the best bird, possessing a fine globular crop. Second very fortunate to gain his position, being short in limb and thick in girth. We preferred 2116 (Fulton) for second, although he is rather heavy in limb. **White hens.**—First a magnificent bird belonging to Mrs. Ladd. Although we did not quite like the second bird, she was no doubt in her right position; 2124 (Gresham) was a good bird, but somewhat coarse. The Any other colour classes were all Blacks, and an excellent lot they were. First (Pratt), the best coloured and marked bird in the



class, but toes slightly bare in covering, but we preferred the second 2181 (Gresham), which we think was the Palace winner, as he is better in marking, has a pair of good limbs, and is a little the best for colour. Black hens.—The cup for hens went to a very stylish bird, Mr. Pratt's cup-winner at the Palace. The second bird was badly hog-backed, and 2138 (Gresham) was a much superior bird.

Short-faced Tumblers were only small classes, only mustering fifteen in all, but the quality was of the highest order. In Almonds Mr. Yardley won the cup for the Short-faces, as well as second with the second and third Palace cocks, which he has become the possessor of; there was not much to choose between them as both are excellent birds with good head points, but the second wonderfully rich in ground colour, yet soft and bright. In Short-faced Tumblers, one of the best Kite hens in the fancy was first; Mr. Yardley being second with a young Kite cock in capital condition.

In Short faced Balds Mr. Woodhouse was as usual *facile princeps*, and in *Beards* only two entries, he and Mr. Yardley shared the prize-money. The Flying Tumblers were large and excellent classes, containing a variety of pretty feathered birds which were greatly admired. These classes possess a great local interest, and a local Judge (Mr. Jordin), was appointed to award the prizes, which we understand he did with every satisfaction. The cup went to a splendid Clear-legged Red Rosewing of beautiful colour and markings, which was specially admired. The Clean-legged variety was an admirable class, most of which were deservedly commended by the Judge. These classes were well supported, and we hope another year the Committee will afford them a third prize.

Barbs generally were poor classes, the only really good bird being Mr. Maynard's cup cock. As far as he goes this is a beautiful little Pigeon, possessing wonderfully good Barb properties. Young Barbs were a very poor class, and the first a Red. We thought several looked rather mature, and would soon see their second Christmas day.

Trumpeters of the Foreign variety took the prizes, perhaps the best White English bird ever exhibited (Shaw) being only highly commended.

Runts were larger classes than usual, but we were informed not quite up to the usual standard in weight.

Fantails were long and heavy classes and capital in quality. We preferred 2247 (Maynard) for first. Messrs. Bailey, Horner, and the Rev. W. Serjeantson, also showing excellent birds.

In the *Any other class* Mr. Yardley ought to have been first and second, as his pens 2266 and 2274 were by far the best in the class.

The *Homing* birds generally were good large-tailed birds, but big and coarse in body compared to those we have specified.

Archangels was a fair class, but there was not a single bird among them which carried all the points of the variety—that is, not a perfect bird.

Nuns contained several good birds. First a well-marked bird, and to all appearance honestly shown, which was not the case throughout.

Swallows.—The winners grand birds. First a Black, an easy win.

Maggies.—The cup a very small Black, but might have a better eye.

Jacobins as a class were disappointed in. The winners were Reds.

Turbits have made a great stride in advance, the first and second Blues being particularly small birds, remarkably good in character; the celebrated winning Silver only coming in for third on this occasion.

Owls.—Foreign a fair class, but English were a large class and contained several grand specimens, including the Crystal Palace bird, which is the winner here.

Want of space prevents us criticising in detail the awards in the Dragon and Antwerp classes. It must therefore suffice to say that the six classes were well filled, and that they comprised the *crème de la crème* of the fancy. It is almost needless to say that Mr. Wood won the cup, for we believe he has won every Dragon cup offered this year for open competition, and when we consider the amount of showing he does, the splendid condition in which all his birds are shown is something marvellous. The only other prize-winner at these classes was Mr. Wallace Smith, who came in for a good share of the honours.

Antwerps were, as usual in Birmingham, simply grand, all the best birds living being present, and the classes on the whole were fairly judged. The cup went to Mr. T. Clulee with a grand-headed bird, a Red-chequer, but pale in colour. In hens Mr. Yardley took the cup also with a fine Red-chequer, which was claimed at £20, and we heard afterwards sold again at £35.

The *Variety class*, as usual at Birmingham, was a large and very attractive one. First was a Brunette. The two seconds were a Saffinette and a Turbitten, and the two thirds a Bluetette and a Blondinette.

#### POULTRY.

BRAMMAS.—Dark.—Cocks.—Cup, J. F. Smith. 2, Rev. J. Richardson. S. H. Lingwood. 4, J. Lyon. *White*.—Cocks.—1, H. Lingwood.

2, Mrs. Arkwright. S. H. Lingwood. 4, J. Lyon. 5, R. P. Percival. *Hens*.—1, Newnham & Masby. 2, J. F. Smith. 3, R. Hargreaves. 4, Rev. J. D. Peake. *White*.—E. Kendrick, jun. *Pullets*.—1 and 2, R. P. Percival. 3, T. Pye. 4, W. R. Garner. 5, E. Kendrick. *Light*.—Cocks.—1 and Cup, E. Horsfall. 2, H. C. White. 3, Duchess of Hamilton. 4, G. B. Cresswell. *Cockerels*.—1 and Cup, W. Peck. 2, R. P. Percival. 3, E. Haines. 4, H. White. 5, B. B. Breze. *Hens*.—1 and Cup, F. Holbrook. 2, P. Haines. 3, J. Birch, jun. 4, H. Lingwood. *Pullets*.—1 and Cup, W. Thorne. 2, M. Leno. 3, P. Haines. 4, R. Horsfall. 5, T. A. Deau. *Selling Classes*.—Cocks.—1, Mrs. A. Tidal. 2, R. P. Percival. 3, J. Zimmer. *Hens*.—1, M. Leno. 2, J. Nock. 3, Rev. F. Taylor.

DORKINGS.—Coloured.—Cocks.—Cup, Mrs. Arkwright. 2, J. Copley. 3, G. Dalt. *Cockerels*.—1 and 2, W. J. Drewry. 3 and 4, Mrs. Arkwright. 5, T. H. C. White. *Hens*.—1, Mrs. T. P. Percival. 2, Rev. F. Taylor. 3, Rev. E. B. B. Breze. *Cup*.—R. Smalley. 2, J. Walker. 3, Mrs. Arkwright. *Silver-Grey*.—Cocks.—1, Lady Bagot. 2, W. H. Denison. *Cockerels*.—Cup, Countess of Dartmouth. 2, R. Smalley. 3, O. E. Cresswell. *Hens*.—Cup, T. C. Burnell. 2, W. H. Denison. *Pullets*.—1, J. Moser. 2, O. E. Cresswell. *White*.—Cocks.—1, Mrs. E. Badger. 2, Miss Fairhurst. *Cockerels*.—Cup, O. E. Cresswell. 2, Mrs. Bayne. *Hens*.—Cup, Mrs. Bayne. 2, Countess of Dartmouth. *Pullets*.—1, R. A. Waisner. 2, Miss Fairhurst. *Selling Classes*.—Cocks.—1, F. Holbrook. 2, J. White. 3, Miss Robbins. *Hens*.—1, W. H. Denison. 2, Mrs. Arkwright. 3, J. White.

COCHINS.—Buff.—Cocks.—1, G. H. Proctor. 2, H. Tomlinson. 3, W. A. Burnell. 4, Lady Gwydyr. *White*.—Cocks.—1, Mrs. Tindall. 2, G. Proctor. 3, W. A. Burnell. 4, J. Wyse. 5, G. Proctor. *White*.—Cocks.—1, Mrs. Tindall. 2, G. Proctor. 3, J. O. Riggs. 4, J. Hendrie. 5, G. H. Proctor. *Pullets*.—1, R. P. Percival. 2, Mrs. A. Tidal. 3, J. A. E. Swindell. 4, W. P. Ryland. 5, Mrs. A. Tidal. *Hens*.—1, Mrs. A. Tidal. 2, W. A. Burnell. 3, H. Tomlinson. 4, J. Stretch. 5, Lady Gwydyr. *White*.—E. Tudman. *Cockerels*.—1, R. Jones. 2, E. Tudman. 3, R. J. Wood. *Hens*.—1, R. J. Wood. 2, H. Tomlinson. 3, J. E. Taylor. *White*.—Cocks.—1, R. J. Wood. 2, R. P. Percival. 3, G. Lamb. *White*.—Cocks.—1, W. A. Burnell. 2, R. P. Percival. 3, R. P. Percival. 4 and 5, H. Tomlinson. *Cockerels*.—1 and 3, R. Chase. 2, Mrs. A. Tidal. *Hens*.—1, Mrs. A. Tidal. 2, Mrs. A. Tidal. 3, H. Tomlinson. *White*.—Cocks.—1, W. A. Burnell. *Pullets*.—1, Mrs. A. Tidal. 2, W. A. Burnell. 3, J. Boot. *White*.—Cocks.—1, H. Tomlinson. *Black*.—Cocks.—1, J. Storer. 2, Mrs. F. J. Cotterell. *Hens*.—1, Lady Gwydyr. *Selling Classes*.—Cocks.—1, R. P. Percival. 2, G. H. Proctor. 3, A. Darby. *Hens*.—1, G. H. Proctor. 2, H. Tomlinson. 3, W. A. Burnell.

MALAYS.—Cocks.—1, Rev. A. G. Brooke. 2, Rev. H. A. Fairlie. *Cockerels*.—Cup, T. Lecher. 2, Rev. A. G. Brooke. *Hens*.—1, Rev. A. G. Brooke. 2, G. B. Burrell. *Pullets*.—1, A. Yeall. 2, E. Lowe. *White*.—Cocks.—1, H. Stephens. *Cockerels*.—1, E. Burrell. 2, I. Ward. *Hens*.—1, H. Stephens. 2, E. Burrell. *Pullets*.—1, H. Stephens. 2, R. B. Wood.

HOUDANS.—Cocks.—1, D. Lane. 2, H. Feast. *Cockerels*.—1, E. B. Martin. 2, T. Pilkington. 3, W. O. Quibell. *Hens*.—1, Mrs. Vallance. 2, W. O. Quibell. *Pullets*.—1, R. A. Boissier. 2, G. D. Harrison. 3, J. E. Pilgrim.

SPANISH.—Cocks.—1, Mrs. Allsopp. 2, W. R. Bull. *Cockerels*.—1, S. H. Hyde. 2, F. Stiles. *Hens*.—1, J. Aldridge. 2, E. Jones. *Pullets*.—1, Mrs. Allsopp. 2, E. Jones. *White*.—S. H. Hyde.

HAMBOURGERS.—Blacks.—Cocks.—1, H. Beldon. 2, R. K. Penson. *Cockerels*.—Cup, C. F. Copeman. 2, Rev. W. Serjeantson. *White*.—Cocks.—1, T. Walker. 2, H. Beldon. *Hens*.—1, T. Walker. 2, Rev. W. Serjeantson. *Pullets*.—1, J. Swann. 2, T. Walker. *White*.—Cocks.—1, Duke of Sutherland. 2, Duke of Sutherland. *Cockerels*.—Cup, T. E. Carver. 2, W. L. Bell. *Hens*.—1, Duke of Sutherland. 2, Duke of Sutherland. *Pullets*.—1, Duke of Sutherland. 2, J. Walker. *Silver pencilled*.—Cocks.—1, J. Stutterd. *Cockerels*.—Cup, H. Beldon. 2, J. Stutterd. *Hens*.—1, H. Beldon. 2, Duke of Sutherland. *Pullets*.—1, H. Beldon. 2, J. Stutterd. *Silver-spangled*.—Cocks.—1, Duke of Sutherland. 2, H. Beldon. *Cockerels*.—1, J. Stutterd. 2, J. Carr. *Hens*.—1, Duke of Sutherland. 2, H. Beldon. *Pullets*.—1, Duke of Sutherland. 2, H. Beldon. *White*.—Cocks.—1, Ashton & Booth. 2, H. Beldon. *Hens*.—1, Ashton & Booth. 2, H. Beldon. *Pullets*.—1, Ashton & Booth. 2, H. Beldon. *Golden-spangled*.—Cocks.—1, H. Beldon. 2, T. May. *Hens*.—1, H. Beldon. 2, T. May. *Pullets*.—1, H. Beldon. 2, T. May. *White*.—Cocks.—1, H. Beldon. 2, T. May. *Hens*.—1, H. Beldon. 2, T. May. *Pullets*.—1, T. May. 2, G. & J. Duckworth.

POLISH.—Blacks.—Cocks.—1, S. Shaw. 2, J. Fearnley. *Cockerels*.—1, S. Shaw. 2, A. Darby. *Hens*.—1, S. Shaw. 2, A. Darby. *Pullets*.—1, S. Shaw. 2, J. Fearnley. *Golden*.—Cocks.—1, A. & W. R. Silvester. 2, Rev. C. W. Shepherd. *Cockerels*.—1, T. Webb. 2, H. Beldon. *Hens*.—1, Rev. C. W. Shepherd. 2, Duchess of Hamilton. *Pullets*.—1, J. Fearnley. 2, J. Scott. *Silver*.—Cocks.—1, G. C. Adkins. 2, H. Beldon. *Cockerels*.—1 and 2, G. C. Adkins. *Hens*.—1, Countess of Dartmouth. 2, G. C. Adkins. *Pullets*.—1, G. C. Adkins. 2, F. Unsworth.

SILKIES.—1, Mrs. J. T. Holmes. 2, R. S. S. Woodgate.

ANDALUSIANS.—1, J. H. Fry. 2, Miss M. Arnold.

LEGHORNS.—1, R. K. Fowler. 2, G. Jones.

ANY OTHER VARIETY.—1, H. Stephens. 2, W. B. Elches. 3, Rev. A. G. Brooke.

ANY OTHER VARIETY.—1, J. Palmer. 2, S. M. Matthews. *Black Reds*.—Cock.—1, S. Matthews. 2, J. Wainwright. 3, W. J. Pope. 4, Hon. and Rev. F. Dutton. *Cockerels*.—1 and 2, S. Matthews. 3, P. A. Rock. 4, W. H. Stage. 5, Major G. Newdigate. *Hens*.—1 and 2, W. J. Pope. 3, W. Johnson. *Pullets*.—1, Cup, and 2, T. P. Lyon. 3, W. J. Pope. 4, S. Matthews. 5, R. R. Lempiere. *Brown Reds*.—Cocks.—1 and Cup, S. Matthews. 2, H. Browne. 3, Saddler & Watson. 4, J. Forsyth. *Cockerels*.—1 and 2, T. Mason. 3, S. Matthews. 4, R. Garnett. 5, W. Watson. *Hens*.—1 and 2, C. W. Phillips. 3, C. W. Brierley. 4, H. Leighton. 5, G. E. Meredith. 5, C. W. Brierley. *Duckwing*.—1 and Cup, J. Halsall. 2, A. & H. H. Staveley. 3, H. E. Martin. *Cockerels*.—1, S. Matthews. 2, J. Goodwin. 3, T. P. Lyon. *Hens*.—1, E. Bell. 2, J. A. & H. H. Staveley. 3, S. Matthews. *Pullets*.—1 and Cup, S. Matthews. 2, T. P. Lyon. 3, Hon. and Rev. F. Dutton. *Cocks*.—1 and Cup, H. A. Clarke. 2, C. F. Montessor. *Cockerels*.—1 and 2, C. F. Montessor. *Hens*.—1, C. W. Brierley. 2, C. F. Montessor. *Pullets*.—1 and 2, W. Brierley. *White*.—Cocks.—1, E. & W. J. Mason. 2, C. W. Brierley. *Cockerels*.—1 and Cup, J. Halsall. 2, W. Watson. *Hens*.—1, C. W. Brierley. 2, R. Walker. *Pullets*.—1 and 2, C. W. Brierley.

BANTAMS.—Gold or Silver-laced.—Cup and 2, M. Leno. *White*.—Clean-legged.—1, H. Beldon. 2, H. Draycott. *Black*.—Clean-legged.—1, H. Draycott. 2, C. F. Copeman. *White*.—Cocks.—1, A. & W. R. Silvester. *Game*.—Black-breasted Reds.—Cup, Rev. W. E. Addie. 2, T. Breeds. 3, J. K. Fletcher. 4, J. W. Morris. *Game*.—Brown-breasted Reds.—Cup, J. K. Fletcher. 2, J. Smith. *Game*.—Duckwing.—Cup, J. K. Fletcher. 2, J. Smith. 3, Shumach & Dalt. *Game*.—White or Pile.—1, K. Browlie. 2, E. Walton. 3, J. Lane. *Any other variety*.—1, Mrs. Woodcock. 2, C. J. Naylor. *Selling Class*.—1, Mrs. Woodcock. 2, C. F. Copeman. 3, J. R. Fletcher.

DUCKS.—Aylesbury.—Cup, J. K. Fowler. 2, J. Walker. 3, E. Snell. *Rouen*.—Cup, J. Walker. 2, T. Wakefield. 3, Duke of Sutherland. 4, R. Gladstone. 5, F. Unsworth. *White*.—Cocks.—1, J. Palmer. 2, Black East Indian.—Cup, G. Saunders. 2, S. Burn. 3, J. J. Maiden. *White*.—Cocks.—1, R. K. Penson. 2, H. Stage. 3, Burn. Rev. J. Richardson. *Mandarin*.—Cup, A. & W. R. Silvester. 2, M. Leno. 3, W. Bouthor. *Caroline*.—1, M. Leno. 2, Rev. W. Serjeantson. *Call*.—1 and 2, R. H. Troughton. *Any other variety*.—1, R. K. Fowler. 2, Rev. W. Serjeantson. 3, Mrs. Troughton. 4, J. B. oth. *M. Leno*. *Selling Class*.—1, P. Unsworth. 2, J. K. Fowler. 3, C. L. Boyce. *White*.—Cocks.—1, F. E. Richards. 2, Wakefield. 3, J. K. Fletcher. 4, J. Walker. *Grey and Mottled*.—1, S. H. Stott. 2, R. P. Williams. 3, T. Watson. *White*.—Cocks.—1, Hon. Mrs. Goulville. 2, W. E. Oakeley. 3, F. E. Richardson. 4, W. Lyett.

TURKEYS.—Cocks.—Cup, R. Gladstone. 2, H. J. Gonnell. 3, E. Kendrick, jun.

who, J. Rook, E. Kendrick, jun., F. E. Richardson, J. Rigg, H. J. Gunnell, J. Everett, C. Edwards. *Cockerels*.—Cup, F. Lythall. 2 and 3, W. Wykes. *Hens*.—Cup, W. Wykes. 2, W. Walker. 3, E. Kendrick, jun. *who*, F. E. Richardson, H. J. Gunnell. *Poult*.—Cup, W. Wykes. 2, E. Arnold. 3, E. Kendrick, jun. *who*, E. Arnold, E. Kendrick, jun.

## PIGEONS.

*CARRIERS*.—*Black*.—Cups, H. M. Maynard. 2, R. Fulton. 3, W. Siddons, sen. *Hens*.—1, R. Fulton. 2, W. Cartwright. 3, H. M. Maynard. *Young*.—Cup and 3, H. M. Maynard. 2, W. H. A. Miller. *Dun*.—*Cocks*.—1 and 2, R. Fulton. *Hens*.—1, H. M. Maynard. 2, W. Siddons, sen. *Any other colour*.—1, R. Fulton. 2, E. C. & T. H. Stretch. *Young*.—1, 2, and 3, H. M. Maynard.

*POUTERS*.—*Red or Yellow*.—*Cocks*.—1 and 2, H. Pratt. *Hens*.—1, F. Gresham. 2, L. & W. Watkin. *Blue*.—*Cocks*.—Cup, R. Fulton. 2, E. Horner. *Hens*.—1, R. Fulton. 2, F. Gresham. *White*.—*Cocks*.—1, L. & W. Watkin. 2, F. W. Zurborn. *Hens*.—1, Mrs. Ladd. 2, R. Fulton. *Any other colour*.—*Cocks*.—1, H. Pratt. 2, E. Fulton. *Hens*.—Cup, H. Pratt. 2, E. Horner.

*ANTWERPS*.—*Amant*.—Cup and 2, H. Yardley. *Short-faced*.—1, M. Weston. 2, H. Yardley. *Short-faced Balde*.—1 and 2, W. Woodhouse. *Short-faced Beards*.—1, W. Woodhouse. 2, H. Yardley. *Muffed Rosewing*.—1, E. Crudington. 2, A. Mitchell. *who*, A. Mitchell. E. Crudington. *Muffed Mottled*.—1 and *who*, W. Mapplebeck, jun. 2, A. Mitchell. *Muffed any other variety*.—1, A. Mitchell. 2, H. A. Wiggins. *who*, H. A. Wiggins (2), W. B. Mapplebeck, jun., A. Mitchell. *Any other variety, including Long-faced Balde and Beards*.—Cup, W. B. Mapplebeck, jun. 2, H. A. Crane. *who*, J. G. Frith, E. Horner, W. B. Mapplebeck, jun. (3), R. Woods.

*BARS*.—Cup and 3, H. M. Maynard. *who*, J. Baily, jun. *Young*.—1 and 2, J. Stanley. *who*, F. Smith.

*TRUMPETERS*.—1 and *who*, J. Lederer. 2, R. Fulton.

*RUNTS*.—1, A. Miles. 2, T. D. Green. 3, J. S. Price.

*FANTAILS*.—*White*.—Cup, J. F. Loversidge. 2, J. Baily, jun. 3, Rev. W. Serjeant.

*ANCIENTS*.—1, S. Shaw. 2, O. E. Cresswell. 3, Dr. R. Hicks. *who*, F. Siedie.

*NUNS*.—1, E. Horner. 2, T. C. Burnell. 3, J. B. Rowdon.

*SWALLOWS*.—1, E. Horner. 2, R. Wilkinson. 3, W. Tadd.

*MAGPIES*.—Cup and 3, W. Tadd. 2, H. Jacob.

*JACOBS*.—*Red or Yellow*.—1, S. Shaw. 2, H. M. Maynard. 3, S. Shaw. *Any other colour*.—1 and 2, S. Shaw. 3, R. Fulton.

*ROBINS*.—*Red or Yellow*.—1, E. W. Webb. 2, S. Shaw. *who*, J. Baily, jun.

*ANCIENTS*.—1, S. Shaw. 2, O. E. Cresswell. 3, R. Woods.

*OWLS*.—*Foreign*.—1 and 2, J. Sparrow. 3, R. Fulton. *English*.—Cup, R. & J. Eeroyd. 2, J. Chesters. 3, R. Fulton.

*DRAGONS*.—*Blue*.—Cup and 3, R. Woods. 2, W. Smith. *Red or Yellow*.—1, 2, and 3, R. Woods. *Silver*.—1, W. Smith. 2 and 3, R. Woods. *Any other colour*.—1, 2, and 3, R. Woods. *Any colour*.—*Hens*.—1 and 2, W. Smith. 3, R. Woods. *Young*.—1 and 2, W. Smith. 3, R. Woods.

*ANTWERPS*.—*Amant*.—Dun. 1, J. Wright. 2 and 3, J. J. Bradley. *Blue*.—1, W. B. Mapplebeck, jun. 2, R. & J. Eeroyd. 3, H. Yardley. *Red-crested*.—Cup, T. Cluise. 2, J. J. Bradley. 3, R. & J. Eeroyd. *Blue-crested*.—1, J. W. Lu-low. 2, J. Cetti. 3, H. Yardley. *Silver Dun or Blue*.—*Hens*.—1 and 3, R. & J. Eeroyd. 2, T. Cluise. *Young*.—Cup, F. Woodhouse. 2, W. Cartwright. 3, H. Yardley. *Red or Blue-crested*.—*Hens*.—Cup and 2, H. Yardley. 3, R. & J. Eeroyd. *Young*.—Cup, G. Green. 2, H. Yardley. 3, H. D. Gough. *Long-faced*.—1, J. Wright. 2, W. Hilton. 3, R. & J. Eeroyd.

*ANY OTHER VARIETY*.—1, R. Gough. 2, J. W. Ludlow, H. Yardley. 3, R. Gough. R. Woods.

*JUDGES*.—*Poultry*: Mr. J. Baily, Mount Street, Grosvenor Square, London; Mr. J. Dixon, Clayton, Bradford; Mr. E. Hewitt, Sparkbrook, Birmingham; Mr. W. R. Lane, New Street, Birmingham; Mr. J. H. Smith, Skelton Grange, York, and Mr. R. Teabay, Fulwood, Preston. *Pigeons*: Mr. T. J. Charlton, Bradford; Mr. F. Esquilant, Brixton, London; Mr. G. Jordin, Birmingham, and Mr. Harrison Weir, Staplehurst.

## KINGSTON-ON-THAMES POULTRY SHOW.

THIS Exhibition was held in the Drill Hall, a place admirably adapted for a good show. The schedule was very imperfect, and some confusion occurred with the pens on the opening day, and we believe the Judges (Messrs. Teabay and P. H. Jones) had the greatest trouble to find the classes and make their awards, which, however, were very satisfactorily accomplished; still the Secretary, who was ready to put crooked matters right as far as he could, was courteous and indefatigable in his work, and we hope this suburban Show may, under judicious management, flourish in future.

*Dorkings*, Coloured, came first on the list, and a very good pair of adults were first, both white in feet and large. In the next class a well-shown pair of Whites came in first, and very deservedly. *Cochins* made but small classes, but the quality was good; the first in each class being really superior specimens. In *Brahmas* the first Darks were only moderate; entered in the catalogue at £5, which should have been £50. In the hocked class a very large Brahma won the cup. In *Polands* a very good pair of White-crested Black chickens came first. In *Clays* the first and second were both good pairs of Dark birds in good feather, and the third were lustrous Blacks. The *French* were good. The first Hondans a good pen, as were the first Crêves. In *Leghorns* the Whites were the best, all being fairly good in colour, and the first and second winning by their better plumage; the third being very young but most promising chickens. *Minorcas* were a very small lot; the first very lustrous Blacks, and neat in combs.

*Bantams* made excellent classes. The first Laced were a good pair of Silvers, not quite neat enough in comb, but very well marked and clear in colour; while in the Variety class moderate Black Rosecombs were first, and Brown Frizzles with non-matching legs second, third again going to Blacks. *Spanish* were excellent, the first pair very good indeed; the cock really wonderfully good. The Selling classes were good; the prohibitory price being £5 5s. per pen brought a good lot of birds. In single cocks of the first-named breeds a Dark Brahma was first, and a capital pair of hens of the same breed also first in the hen class, while in the other classes we saw a capital pair of Spanish pullets and some extremely good Crêves from Mr. Harley. We had almost

omitted the *Game* classes and the *Hamburgs*. In the former among the Black-breasted Reds the first were in good feather, and the cock capital in head and of good carriage; the second too were in very hard feather, and the hen we especially liked. *Duckwings* were only moderate, save the first-prize pair, which were of good colour, and the cockerel stylish. In the variety *Game* class a very good pen of Piles easily came in first. They were of good colour, and the cock capital in head. The third prize was, we believe, withheld. The *Hamburgs* again made but small classes. The Golden-pencilled were, perhaps, the best. Both first and second pairs were in good condition. In *Spangals* a good pen of Silvers won first. Blacks had but four pens, and the awards seemed quite correct. The first were neat in combs, and the cock had a good tail.

The *Pigeon* department was very limited; but here the pens were mixed up in so bewildering a manner that we really could not make them out at all. We give the list of awards as near as we could obtain them.—W.

*POULTRY*.—*DORKINGS*.—Coloured.—1, Rev. R. S. Woodgate. 2, — Bonsey. 3, — Brown. *Any other variety*.—1, Miss D. Mackenzie. 2, R. A. Baker. *COCHINS*.—*Partridge*.—1, C. Marshall. 2, Mrs. Radcliffe. *Cinnamon* and *Buff*.—1, A. Darby. 2, Mrs. A. T. Triton. *Any other variety*.—1, A. Darby. 2, R. A. Boissier. 3, Rev. R. S. Woodgate. *Black*.—1, A. Darby. 2, Rev. J. D. Peake. 3, A. Kitchen. *BRAHMAS*.—*Dark*.—1, H. Stephens. 2, Mrs. Radcliffe. 3, Rev. J. W. Joyce. *Light*.—2, W. Wells. 3, G. W. Pether. *HOCKED BIRDS* (confined to Surrey and Middlesex).—*White Brahma*.—*Cockerel or Pullet*.—Cup, E. Durand. *who*, W. Butler. *GAME*.—*Black-breasted Red*.—1, T. Docwra. 2, F. Edwards. G. H. Fitz-Herbert. *Duckwing*.—1, T. Docwra. 2, W. Treadwell. 3, T. F. Woodhouse. *Brown Red*.—1, E. Elliott. 2, H. Ritchie. 3, F. T. Stanley. *Any other variety*.—1, G. H. Fitz-Herbert. 2, H. Ritchie. *HAMBURGHS*.—*Gold and Silver-pencilled*.—1 and 2, Miss D. Mackenzie. 3, E. Long. *Gold and Silver-spangled*.—1, E. Long. 2, F. Edwards. 3, J. Metcalfe. *Any other variety*.—1, N. Wright. 2, J. W. Kellaway. 3, E. Long. *LEGHORNS*.—*White*.—1 and 2, Miss Handfield. 3, T. Norwood. *Brown*.—1 and 3, A. Kitchen. 2, H. A. Rigge. *POLANDS*.—1, T. Norwood. 2, J. Hinton. 3, E. Burrell. *MALAYS*.—1 and 3, G. Burrell. 2, J. Hinton. *SPANISH*.—*Black*.—1, Mrs. Heeves. 2, H. Goddard. 3, A. Atlee. *MINORCAS*.—1, T. Norwood. 2, R. J. Brewer. 3, G. H. Fitz-Herbert. *BOUDANS*.—1, J. W. Moyle. 2, G. L. Hillier. 3, R. A. Boissier. *FRANCE*.—*Any variety not named*.—1, W. Cutlance, jun. 2, Miss A. Sharp. 3, E. Burrell. *BANTAMS*.—*Black-breasted Red*.—1, J. C. Fraser. 2, G. H. Fitz-Herbert. 3, J. Wells. *Brown-breasted*.—1, G. H. Fitz-Herbert. 2, W. H. Ashton. *Sprights*.—1, H. Cooper. 2, T. Creep. 3, F. W. Hardwick. *Any other variety*.—1, L. G. Moorell. 2, F. C. Davis. 3, W. H. Ashton. *SELLING CLASSES*.—*Dorkings*, *Brahmas*, and *Cochins*.—*Cock or Cockerel*.—1, P. H. Jones. 2, R. Bird. *who*, Miss Handfield. J. Bradshaw. *Hens or Pullets*.—1, Mrs. Heeves. 2, R. A. Boissier. *who*, F. Ogilvie. *Game*, *Hamburgs*, *Spanish*, *Leghorns*, and *Polands*.—*Cock or Cockerel*.—1, J. Hinton. 2, A. Atlee. *Hens or Pullets*.—1, H. Goddard. 2, G. H. Fitz-Herbert. *French*, or *any other variety*.—*Cock or Cockerel*.—1, A. W. Darley. 2, H. Stephens. *Hens or Pullets*.—1, A. W. Darley. 2, H. Stephens. *BANTAMS*.—*Cock or Hen*.—1, C. Reid. 2, F. C. Davis. *TURKEYS*.—*Cock*.—1, P. R. Tippler. *Hen*.—2, P. R. Tippler. *GESE*.—1, P. R. Tippler. *DUCKS*.—*White Aylesbury*.—1 and 2, E. Snell. *Rouen*.—1, Mrs. Burgess. 2, E. Snell. *Any other variety not named*.—1, J. W. Kellaway. 2, W. B. Pigeons.

*PIGEONS*.—*CARRIERS*.—*Cock*.—1, H. Gillam. 2, W. F. Maynard. *Hen*.—1, G. H. Gillam. *DRAGONS*.—*Yellow*.—*Cock*.—1, W. Serjeant. *Hen*.—1, W. Serjeant. *Black*.—*Cock*.—1, Hon. W. Sudeen. *Hen*.—1, W. F. Maynard. *Blue*.—*Cock*.—1, W. F. Maynard. *Hen*.—1, W. F. Maynard. *Any other colour*.—*Cock*.—1, G. H. Fitz-Herbert. *POUTERS*.—*Cock*.—1, T. Herrieff. 2, A. Byford. *Hens*.—1, T. Herrieff. 2, A. Byford. *RARS*.—1 and 2, W. F. Maynard. *ANTWERPS*.—*Working*.—1, H. May. 2, J. W. Barker. *Cock or Hen*.—1, J. T. Theobald. 2, W. Treadwell. *OWLS*.—*English*.—1, E. W. Van Sinden. *NUNS*.—1, W. F. Maynard. 2, H. B. Inman. *TURBITS*.—1, C. A. Crafer. 2, E. W. Van Sinden. *FANTAILS*.—1, J. T. Loversidge. 2, W. Todd. *JACOBS*.—1, W. H. Gower. 2, W. Todd. *ANY OTHER VARIETY*.—1, R. Wilkinson. 2, W. H. Gower. *SELLING CLASSES*.—1, W. F. Handment.

## GUILDFORD POULTRY SHOW.

THIS Show was held on the 11th and 12th inst. in the Green Market, Guildford. We must defer our report till next week.

*POULTRY*.—*DORKINGS*.—Coloured and Silver.—1 and 3, O. E. Cresswell. 2, G. Ellis. *who*, J. Taylor. *Chickens*.—1 and Extra, O. E. Cresswell. 2, G. Ellis. 3, J. Ivery & Son. *White*.—1, O. E. Cresswell. 2, E. Hall. 3, J. Ivery & Son. *Blue*.—1 and 2, W. Virgo & Son. 3, Mrs. Mayo. *COCHINS*.—1 and 3, T. W. Anns. 2, Rev. J. Buckmaster. *BRAHMAS*.—*Dark*.—1, Miss D. Mackenzie. 2, Rev. J. D. Peake. 3, Mrs. Radcliffe. *Light*.—1, Rev. N. J. Ridley. 2 and 3, J. Bradshaw. *SPANISH*.—1, Mrs. Howes. 2, J. H. Webber. *GAME*.—1 and Extra, J. Knight. 2, Rev. J. Merriman. 3, F. Ward. *who*, E. Haines. *BOUDANS*.—2, Mrs. Dundas. *HAMBURGHS*.—1, O. E. Cresswell. 2, Miss D. Mackenzie. *BANTAMS*.—*Game*.—1, E. Haines. 2, W. Balchin. *Any other variety*.—1, 2, and Extra, O. E. Cresswell. *DUCKS*.—*Aylesbury* or *Rouen*.—1, J. Ivery & Son. 2, E. Hilder. 3, H. Glover. *Any other variety*.—1, A. & F. Wells. 2, T. Drevitt & Son. *GESE*.—1, Mrs. Radcliffe. 2, W. Messenger. 3, W. S. Smith. *GOSLINGS*.—1, Mrs. Radcliffe. 2, T. Baker. 3, W. S. Smith. *TURKEYS*.—1, F. Ward. 2, G. H. Langford. 3, Countess of Lovelace. *Poult*.—1, F. Ward. 2, J. H. Webber. 3, Countess of Lovelace. *who*, Mrs. Radcliffe. *SELLING CLASS*.—1, G. Ellis. 2, T. W. Anns. *who*, Rev. J. D. Peake.

*PIGEONS*.—*ANY VARIETY*.—1, 2, and 4, O. E. Cresswell. 3, R. Wilkinson. 5, T. Randall & Son. 6, B. White. 7, A. F. Skinner. *who*, J. R. Capron, J. Chuter.

## CARMARTHEN POULTRY SHOW.

THIS was held on the 12th inst., and though the entries were not large the Show was an excellent one, and the birds came from many celebrated yards. Mr. John Martin awarded the prizes to the great satisfaction of all. The Exhibition was held in the Market Place, and the Society's own pens were used.

*Dorkings* made a fair display, and the first and second *Spanish* were shown in capital trim, the first cock's face being very good in quality and large. In *Cochins* some good *Partridges* were shown, and though all varieties competed together first and second prizes went to birds of good quality of this variety. *Light Brahmas* were not nearly so good as the *Darks*, in the latter breed the prize birds being excellent in size and the hens well pencilled. *Game* were admirable. The cup went to a grand pen of *Brown Reds*; the cock of wonderful excellence;

the hen, too, good in head and fine in tail. *Polands* were well represented. In birds of any age capital *Silvers* won first, while in Golden chickens a smart pen were first, very fair in crest, and bright in colour. Mr. Burrell's two pens were both empty. *Houdans* only made half a dozen pens. The first-prize birds were well selected and prettily marked. In the Variety class *Malays* won first and second, the first being good chickens in fine condition. Brown *Leghorns* only appeared. A capital pen took first, good in tails and neat in comb. In Game *Bantams* a very smart pen of Brown Reds won first. In the Variety Bantam class Blacks were first, second, and third.

The *Pigeons* did not muster very strongly. Of the various classes *Dragoons*, *Fantails*, *Jacobins*, *Turbits*, and *Owls* were the best. In *Jacobins* a good pen of Blacks won first, Reds taking second and third. We saw, too, lustrous *Archangels* in the Variety class. This breed seems to be looking up, for at Birmingham, Guildford, and Kingston they have appeared in good numbers and of excellent quality. *Barbs* and *Antwerps* had a class together; they made eighteen pens, in which a good pen of *Barbs* came in first, and Red-chequered *Antwerps* took second. *Pouters* had no entries.

POULTRY.—*DORKINGS*.—1, W. Bevan. 2, H. Feast. 3, T. Harries. *SPANISH*.—1 and 2, J. W. Holden. 3, A. J. Radford. *BRAHMAS*.—*Dark*.—1, H. Feast. 2, J. S. Maggs. *BRAHMAS*.—*Dark*.—1, H. Feast. 2, J. S. Maggs. 3, A. H. Robbins. *Light*.—1, H. Feast. 2, E. Lawrence. 3, C. H. CHINA. 1, D. Lewis. 2, W. Kent. 3, H. Feast. *GAMM*.—*Black-breasted Red*.—1 and 2, J. P. James. 3, D. Morgan. *Any other colour*.—*Camp*. R. Pearson. 2, J. P. James. 3, M. Woonnam. *Untrimmed or Undubbed*.—*Cock*.—1, J. Cock. 2, D. Morgan. 3, W. H. Taylor. *HAMBURG*.—*Golden-pencilled*.—1, J. Carr. 2, H. Feast. 3, C. K. Senior. *Silver-pencilled*.—1, H. Feast. 2 and 3, W. F. Maynard. *Golden-pencilled*.—1, H. Feast. 2 and 3, M. Langdon. *Silver-spangled or Black*.—1, H. Feast. 2, D. Morgan. 3, L. O. Lewis. *Polands*.—1, J. Hinton. 2, H. Feast. 3, S. W. Thomas. *Golden*.—*Chickens*.—1, J. J. Scott. 2, D. Lewis. 3, A. P. French. *Houdans*.—1 and 2, S. W. Thomas. 3, J. J. Scott. *FRENCH OR MALAYS*.—*Any other variety*.—1, M. J. H. Spurry. 2, H. Feast. 3, J. Hinton. *LEGHORNS*.—1 and 2, F. L. Green. 3, S. L. Bradbury. *BROWN*.—1, J. Heastie. 2, E. W. Pickard. 3, F. L. Green. *BANTAMS*.—*Game*.—1, G. Lewis. 2, A. J. Radford. 3, H. Feast. *Any other variety*.—1 and 2, H. Feast. 3, T. H. Phelps. *ANY OTHER BREED OR CROSS*.—1, H. Feast. 2, T. F. Phelps. *SHILLING CLASS*.—*Medal*, D. Lewis.

POULTRY (Local Prizes).—*DORKINGS*.—1 and 2, H. Feast. 3, J. Harries. *BRAHMAS*.—1 and 2, H. Feast. *COCHIN-CHINA OR SPANISH*.—1, H. Feast. 2, D. Lewis. *HAMBURG*.—1, H. Feast. 2, D. Lewis. *GAMM*.—1, D. Morgan. 2, H. Feast. *FRENCH*.—1 and 2, H. Feast. *BANTAMS*.—1, H. Peerman. 2, G. Hughes. *ANY OTHER BREED*.—1, J. H. Spurry. 2, D. Lewis. *DOCKS*.—*Aylesbury*.—1, J. Buckley. 2, J. Buckley, Jun. 3, Mrs. W. James. *Any other variety*.—1 and 2, H. Feast. 3, H. Law. *Any Breed, open to the county*.—1 and 2, H. Feast. *TURKEYS*.—1, Mrs. W. James. 2, J. Buckley. 3, L. Williams. *CHICKENS*.—*Toulouse*.—1 and 2, Davies. 3, J. Buckley. *Any other variety*.—1, J. Buckley. 2, W. W. Prosser. 3, T. Fradette.

PIGEONS.—*CARRIERS*.—1 and 2, T. F. Phelps. 3, E. T. Houle. *DRAGONS*.—1, G. S. Prentice. 2, T. Wheeler. 3, E. T. Houle. *TUMBLERS*.—1, E. Lewis. 2, Dr. Morrison. 3, R. C. Carver. *FANTAILS*.—1, T. F. Phelps. 3, J. Hinton. 3, E. T. Houle. *BARBS OR ANTWERPS*.—1 and 2, T. F. Phelps. 3, Wheeler. *JACOBINS*.—1, G. S. Prentice. 2, E. T. Houle. 3, W. F. Maynard. *OWLS OR TURBITS*.—1, T. F. Phelps. 2, E. T. Houle. 3, G. S. Prentice. *ANY OTHER VARIETY*.—1, E. T. Houle. 2, W. F. Maynard. 3, T. F. Phelps.

RABBITS.—*LOP-EAR*.—1, H. Law. *ANY OTHER VARIETY*.—1, Master V. Thomas. 2, H. Law.

### DUNSE SHOW OF POULTRY, &c.

The first Show was held at Dunse in the Corn Exchange on the 14th inst. We must defer our remarks until next week. The following is a list of the awards:—

POULTRY.—*DORKINGS*.—1, G. Ames. 2, Rev. G. R. Cooke. 3, J. Young. *COCHINS*.—1, T. Boyd. 2, S. Logan. 3, Lady Majoribanks. *BRAHMAS*.—1, Hon. R. B. Hamilton. 2, W. Brunton. 3, S. Logan. *GAMM*.—1, A. Graham. 2, W. McKay. *SPANISH*.—1, J. C. Turnbull. 2, R. F. Scott. 3, Mrs. Logan. *HAMBURGERS*.—*Golden-pencilled*.—1, W. R. Park. 2, W. Linton. 3, A. Hutton. *Silver-spangled*.—1, W. R. Park. 2, R. Holmes. *Silver-pencilled*.—1, A. G. Lindsay. 2, S. Logan. *BANTAMS*.—1, J. Archibald. 2, J. Archibald. 3, C. Lugton. *Any variety*.—1 and 2, A. Graham. 3, J. Archibald. *etc.* A. Hutton. A. G. Lindsay. *FARMYARD FOWL*.—1, W. R. Park. 2, J. H. Pitt. 3, W. McKay. *DOCKS*.—*Aylesbury*.—1, Dr. Campbell. 2, J. H. Pitt. 3, Mrs. Logan. *etc.* J. Purves. *Rouen*.—1, S. Logan. 2, A. Campbell. 3, R. B. Kellie. *Any variety*.—1 and 2, Lady Miller. 3, N. Slight. *TURKEYS*.—1 and *etc.* J. Purves. 2, Lady Miller. 3, A. Hewitt. *GAMES*.—1, Mrs. Brydon. 2, Lady Majoribanks. 3, Mrs. Dods. *CROSS*.—1, W. Linton. 2, W. R. Park. *HOUDANS*.—1, Mrs. Falconer. 2, G. Walker. *ANY OTHER VARIETY*.—1, Lady Majoribanks.

PIGEONS.—*TUMBLERS*.—1 and 2, W. Brydon. *FANTAILS*.—1, C. McWatt. 2, Lady Miller. 3, G. Patterson. *POUTERS*.—1, A. Graham. 2, W. Patterson. 3, W. Graham. *JACOBINS*.—1 and 2, W. Brydon. 3, J. Renwick. *etc.* W. McKay. *NUNS*.—1, W. Brydon. 2, W. Mein. *OWLS*.—*English*.—1, J. Renwick. 2, W. Brydon. 3, W. Renwick. *TURBITS*.—1, J. Renwick. 2, W. Renwick. 3, W. McKay. *ANY OTHER VARIETY*.—1, W. McKay. 2, W. Brydon. 3, W. Renwick. *etc.* J. Renwick.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

THE MARGATE POULTRY SHOW.—In our pages will be found an advertisement that the Show at Margate is to be open to the whole county of Kent. When first advertised this Show was announced as being limited to the eastern division of the county, but so unexpected is the amount of support offered by the public that the Committee have resolved to make it a county show; and as the Hall-by-the-Sea, which adjoins the railway station at Margate, has been secured for the purpose, and twelve silver cups and about £110 offered in money prizes, we think the Show deserves to be a great success.

### OUR LETTER BOX.

PROMOTING GRASS ON LAWN (Inquirer).—As your fowls have cropped it close, you may make them in return promote the growth of the grass by spreading thinly over it their dung dropped in the fowl house.

BRAHMAS (Constant Reader).—You cannot depend at this season of the year on one cock being sufficient for twenty hens. You might in May or June. Give to the Brahma cock and the ten pure pullets the whole of the run. Their eggs will then be saleable and pure. Put the other pullets in the best and roomiest confinement you have. We do not see how another cock will help you in the matter, because you will always be liable to sell half instead of pure birds. The colour of the egg is not to be depended upon, as many of the half-breeds would be dark enough to pass as Brahmas. The confined hens will be better satisfied with a cock, but any bird will do. It is not absolutely necessary. You may remove the lump from the foot of the Houdan and then use caustic. The foot must afterwards be tied up in leather, and the fowl put where it will walk on something soft, as hay or grass. As the wound will be between the toes and not on the ball of the foot, it should not be long in healing.

PULLER'S EYE INFLAMED (W. H. W.).—Rub the eyelid with citrine ointment. It is sold by all chemists.

CANARIES—THE LOSS OF EYESIGHT (A Constant Reader).—Your general treatment appears to be good, and should not be the cause of your birds losing their sight. In your bird-room a damp one, or do you allow a strong current of air to be passing through it? If so, encouragement will be given to colds, the common precursor of asthma and consumption, and other inflammatory attacks, ophthalmia included. Rooms in which numerous birds are kept should be effectually ventilated, especially during the breeding season, but not in the manner some adopt—namely, by throwing open both door and window, and endangering the lives or constitutions of their birds through their being placed in a current of air. Ventilators should be placed in the uppermost parts of the room, as near the ceiling as possible. Disease is often brought on through impure air, and we know of instances of several Canaries losing their eyesight through the fumes of burning brimstone arising from the periodical storing of straw bonnets in the house of a bird-breeder whose better-half was a straw-bonnet maker. The birds were of the Belgium breed, and the mischief to them continued for some time before the cause of blindness was found out. Instances of the loss of sight will sometimes occur through the pugnacious tendency of some of the occupants of an aviary, especially over the seed drawer, when the birds have been kept short of their rations. No doubt birds are as liable to cataracts as other animals, and it is just possible your birds may be suffering from the disease; but to arrive at the true cause of blindness in the absence of more than the bare fact is more than we can account for. Remove from the cage or aviary all healthy birds, letting the blind occupants remain together owing to their being familiar with the feeding troughs. At any time it is unwise to permit healthy birds to tenant the same places as those diseased, for infection is liable to be imparted (and it may have happened in your case) through the habit birds possess of rubbing their beaks and sides of their heads on the perches, especially when irritated about their eyelids. Keep the cages clean, and now and then wash the perches. To the asthmatical members give a drop or two of cod-liver oil twice or thrice a week, with a little of the bread-and-milk diet, and a few groats occasionally.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 43" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				Rain.	
1876.	Barom. at Sea and Level.	Hygrome- ter.		Direction of Wind.	Temp of Solar 1 foot.	Shade Tem- perature.		Radiation Temperature.		
Dec.		Dry.	Wet.			Max.	Min.	In sun.		On grass
We. 18	Inches. 29.778	deg. 44.8	deg. 44.0	N.W.	deg. 42.3	deg. 42.6	deg. 42.4	deg. 51.6	deg. 28.8	In. —
Th. 19	29.918	44.7	44.6	S.	41.0	44.4	44.3	46.8	28.5	—
Fri. 15	29.902	42.3	41.0	S.E.	42.0	44.8	41.0	46.5	28.3	0.032
Sat. 16	29.799	42.7	42.1	S.E.	43.0	45.3	40.0	49.6	38.7	0.068
Sun. 17	29.705	43.6	43.5	E.	42.4	45.2	42.4	47.5	40.5	0.806
Mo. 18	29.290	43.1	41.8	S.S.E.	43.0	46.3	39.3	50.0	40.0	0.100
Tu. 19	29.145	41.3	41.0	S.W.	43.1	45.8	39.9	45.3	38.1	0.295
Means.	29.848	41.8	40.7		42.5	44.8	38.5	48.0	35.8	0.791

### REMARKS.

18th.—A very slight frost and white fog; very bright at times in the early part of the day.  
14th.—Dull but without rain; air rather drier at night.  
15th.—Hazy and dull all day. [night.  
16th.—White fog early; rain in forenoon and damp all day; rather clearer at 17th.—Very dull all day, but no rain till the evening; heavy rain in the night.  
18th.—Very damp, dull, and dark all day, except for a short time about noon.  
19th.—White fog, getting darker soon after 9 A.M.; a most miserable day rain in early evening, when the fog was rather less dense. Barometer very low at night.  
Slightly colder than last week; temperature very uniform and no sun. A very gloomy week.—G. J. SYMONS.

### COVENT GARDEN MARKET.—DECEMBER 20.

THE usual Christmas supply of fruits and vegetables is now arriving, but with the exception of high-class goods very little business is doing, and according to present appearances this bids fair to be the dulllest Christmas we have known for many years.

		FRUIT.							
		s. d.	s. d.			s. d.	s. d.		
Apples.....	dozen	1	8 to 5	0	Nectarines.....	dozen	0 to 0	0	
Apricots.....	dozen	0	0	0	Oranges.....	dozen	0	12	0
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	0	0	0
Currants.....	dozen	0	0	0	Pears, kitchen.....	dozen	1	0	0
Black.....	dozen	0	0	0	dessert.....	dozen	8	0	12
Figs.....	dozen	0	0	0	Pine Apples.....	lb.	1	6	4
Filberts.....	lb.	0	0	0	Plums.....	dozen	0	0	0
Cobs.....	lb.	1	0	6	Quinces.....	bushel	0	0	0
Gooseberries.....	quart	0	0	0	Raspberries.....	lb.	0	0	0
Grapes, hothouse.....	lb.	2	0	0	strawberries.....	lb.	0	0	0
Lemons.....	dozen	10	0	0	Walnuts.....	bushel	5	0	0
Melons.....	each	1	0	0	ditto.....	dozen	1	6	2

## WEEKLY CALENDAR.

Day of Month		Day of Week.	DEC. 28, 1876.—JAN. 3, 1877.			Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year
				Day.	Night.	Mean.	h. m.		h. m.		h. m.		h. m.		h. m.		Days.	m. s.			
28	T	F	London Institute at 7 P.M.	42.6	29.5	36.0	8	9	3	56	1	9	3	35	14	2	5			862	
29	F			43.9	33.0	38.5	8	9	3	56	1	54	7	1	15	2	34			863	
30	S		Royal Society instituted, 1660.	44.4	31.7	38.1	8	9	3	57	3	2	8	14	16	3	3			864	
31	S	SUN	SUNDAY AFTER CHRISTMAS.	43.9	32.4	38.2	8	9	3	58	4	29	9	7	17	3	32			865	
1	M		Victoria Institute at 8 P.M.	43.0	33.0	36.6	8	8	4	0	6	4	9	42	18	4	0			1	
2	Tu			41.9	28.9	35.4	8	8	4	1	7	38	10	6	19	4	28			2	
3	W			42.6	28.6	35.4	8	8	4	2	9	8	10	23	20	4	56			3	

From observations taken near London during forty-three years, the average day temperature of the week is 43.1°; and its night temperature 29.6°.

## A RETROSPECT OF THE CLOSING YEAR.



LOOKING forward is what all earnest members of the craft horticultural are properly doing. The old—those who have won success and honour—look for a period of retirement; the middle-aged hope for another year of still greater prosperity; and the young hope for positions of trust which they contemplate occupying worthily. Looking forward is commendable, but the path, we should remember, is hidden. All of us need

a guide—the aged, the robust, the young—we all need some aid that we may pursue our way with the more confidence. Now, a guide which is at the command of all is the past. The past affords both encouragement and warning, and its teachings are recorded in the preceding issues of this Journal. We turn over its pages, and we naturally count up our loss of men whose absence we regret and whose memories we honour, yet they have left us the examples of their lives—their earnestness in the cause of horticulture, their industry, their integrity, and deserved success.

Amongst nurserymen who saw the beginning but not the end of the “closing year” the name of Van Houtte comes prominently. That “giant in horticulture,” as he was appropriately termed, lived a life of indomitable perseverance, of unflagging and almost unrelenting industry, which surmounted all obstacles. “It is not fair,” said one (who is a successful living worker) to me, “to regard that man’s life as *one* life, for a man who works unceasingly from one o’clock in the morning until eight in the evening lives the life of *two* men. Van Houtte’s thirty years of business means sixty years.” That is true, but the same lesson remains—that “he who wins must work;” and the warning is also afforded that incessant and almost unbroken labour wears out (perhaps prematurely) the strongest of men.

Another loss in the nurserymen’s ranks, and this time “nearer home,” is the blank left by the late Mr. J. R. Pearson; he also was a man of success, a man of energy, and a man of work, and one whose uprightness and conscientiousness were equal to his attainments. Mr. Pearson is remembered as having “revolutionised the character of bedding Geraniums,” as having raised new Grapes possessing both distinct and valuable qualities; but more particularly, and honourably, by having returned the highest honour which could be awarded to a seedling Grape when he subsequently found that the new Grape did not retain its youthful charms during after years of trial. The lesson left by the life of this worthy man is that high moral rectitude is more endurable than even great professional attainments. It is only the weak who (even covertly) appropriate that which is not justly their own. Mr. Pearson’s loss is mourned as one who “went straight.”

Another vacant form—not name, for that is still with us and respected, is the late Mr. W. Cutbush, who for thirty-six years laboured with assiduity in his calling:

he also was an upright man. One more name must be added to the list of the “year’s victims”—the patriarchal Mr. E. G. Henderson, who after a life of zeal resulting in the establishment of one of the foremost of the metropolitan nurseries was called away, “full of years and honours.” These are some of the men who have bequeathed to us the memory of their lives—guides of the future.

Amongst those more or less identified with the subject of botany—those who have prosecuted their researches in museums and gardens, and who have not only acquired, but have disseminated information of the greatest value, but who are “no longer with us,” may be named MM. Adolphe Brongniart and Pierre Pépin abroad, and Messrs. Bennett, Turner, and Munby at home—all painstaking workers in their several spheres, whose industry and accuracy may be emulated with advantage by others now engaged in similar important duties.

The florists’ ranks have also been thinned during the year; and how ill can real florists be spared! Nathaniel Norman, the “Tulip, Pink, and Picotee man” of Woolwich, the raiser of many of the best named flowers and the builder of his own fame by his own works, is gone. Richard Heady, whose name will be familiar for many a day, for is it not borne by one of Lightbody’s best grey-edged Auriculas? is also gone. Is not the name also attached as its raiser to that fine green-edged variety Alderman Wisbey, to the grey-edged George Lightbody, to the self Cantab, and to many others of these alpine gems; also to sundry Carnations and Picotees?—living monuments of their raiser’s fame. These men were claimed as “southerners;” but at least one “northerner” is also gone—Mr. Michael Potter of Sale, a “born florist,” and the son of the raiser of Potter’s Albion Tulip. These are melancholy blanks. Have they contributed to a “closer drawing together” of the few florists left—the union of northerners and southerners—patrons and cultivators of the flowers of earth? Surely unity is needed amongst the earnest few—an unity which it is ardently to be hoped will be signed, sealed, and ratified under the crystal dome of Sydenham in the coming year—an unity not to be disturbed by conflicting thoughts, and more especially such final separations as those above alluded to, and which all true florists mourn.

Gardeners also have been called away—Fleming, McKeith, Kinmont, Paterson, and others, who by lives of study and industry honoured the craft to which they belonged. It is only by painstaking and perseverance that gardeners can win a place in the annals of their craft; yet it is something to know that that is attainable—that is, it has been done by others besides those now mentioned, and therefore may be done again by those who will gather “lessons from the past,” and who will plod on perseveringly.

A gardener’s life is in many respects an arduous life, yet happily it is not unfrequently a pleasant life. The best of men do not work wholly with the object of laying up riches, or they would have sought out some other calling. They work for the love of the craft, and without



this devotion they cannot excel. The gardener's life is in the aggregate a healthy life—that is, it is not a killing occupation, as the average death-rate shows; but it is nevertheless enfeebling, and its votaries are subject to maladies which disable if they do not suddenly destroy. The wise will consider this and make such provision as they can. The best men of the past have exercised foresight and frugality, and the men of the present must do the same if their "closing year" is to glide smoothly away.

"Heaven helps those who help themselves" is an adage full of truth. By self help other help has been given during the closing year. Let not the examples of good afforded at least by one institution during the year be forgotten. One of the brightest pages of the Journal is in the first number for July, wherein is recorded the annual meeting of the Gardeners' Royal Benevolent Institution. There are other means than this of providing for the "unseen vicissitudes of life"—some, possibly, being more tempting; but few are more sure, more strong than the Society, rejoicing in the patronage of the Queen. I will extract a few lines from the address of the Chairman (Dr. Hogg) touching the soundness and the benefits of the Institution. "We start," said Dr. Hogg, "this year with a balance in hand of £441 9s. 8d., and our income from all sources is £1634 2s. 9d., of which £693 is from subscriptions. We have £10,750 invested in 3 per cent. consols, a balance at the bankers and in hand of £430 12s., and seventy-four aged pensioners on our list who are receiving sums of £16 and £12 a-year." Who can tell what miseries have been averted and what comforts conferred by these pensions on the persons of the venerable seventy-four? More recipients have been added to the list since then, and before the first month of the new year has passed a further enrolment of pensioners will have taken place. I have seen the list of applicants, and could not fail to note the peculiar incidence of rheumatism to gardeners who have passed through the sudden changes of extreme temperature inseparably connected with their vocation. No one knows how soon he may be smitten, but everyone may know—and I trust that not only gardeners but their employers will ponder over the fact seriously—that a guinea a-year subscribed cannot fail to alleviate the sufferings of some who have laboured in the work of horticulture, and have been the means of adding countless pleasures and substantial benefits to others in their (the gardeners') prosperity. Gardeners contributing may thus invest for their own after-benefit, and those who are never likely to want may be certain that their assistance will be well and directly applied to an object which is emphatically deserving of substantial support. The past year has taught the aged recipients how valuable is this Institution, and those who are now in prosperity will do well to commence the new year by joining this excellent organisation.

A pleasing episode of the year in connection with the Society was the recognition of services of the Chairman for his successful labours in adding to the funds for the benefit of British gardeners. All who know "the Doctor" know how earnest is his desire to improve the condition of all worthy members of the craft, and the simple address on vellum to that effect will doubtless be regarded as one of the most cherished of his many honours. Thus, if the past reveals some mournful features, it also has some pleasant points worthy of being recapitulated.

There are many other events of the closing year which may well be kept in remembrance—many records of the successful practice of present workers and of the able teachings of ancient writers. The condition of horticulture is worthy of review—the shows, the fruits, the plants, the influences of the season, the endeavours which have been made for mutual improvement, the facilities which have been provided for the growth and spread of professional knowledge by and through the gardening press. Some of these I may refer to at a future time, for I have "laid down the shovel and the hoe," and have time for reading, and perhaps I may now and again venture on wielding that potent instrument the pen. My hand may be clumsy from much hard work, but my desire is great to benefit others by the means which have benefited me.

To the Journal I can conscientiously say I am indebted for much of the success of a life of practice, and to many hours of pure and congenial enjoyment which the perusal of its pages have afforded me. Its contributors—professional and amateur—I seem to know personally, and its Editors I like to fancy are my intimate friends. If distance dispels the dream, the vision nevertheless appears to possess much natural reality, and my "closing year" is made the more pleasant. Do not

others feel much the same? I know that hundreds—thousands do, and must share my satisfaction. Let us hope, then, that we may go on as before—enjoy the same matured counsels, the same sound information, the same genial expressions, and in return give what we can, that another year—now near its dawning—may open pleasantly, progress smoothly, and close satisfactorily.

And now as my final greeting—my "last words"—of the dying year, let me wish new life to Editors, contributors, and artists.—A RETIRED GARDENER.

### SEEDLING BRIARS.

IN answer to several correspondents I wish, before giving any advice, to state that I do not believe in this stock except for Teas. My friend Hercules gave this stock a very fair trial indeed, and has, as he says, "made nothing of it at all." On the other hand a very great authority, the Rev. Reynolds Hole, states that it is the best of all stocks. So that the opinions of two of the greatest amateur cultivators of the Rose are diametrically opposed. As to where the stocks can be obtained in Devonshire, Mr. James Walters of Mount Radford Nurseries, Exeter, can supply any amount of seedling Briars. Very good they are, too, for I have seen them and talked to that good practical grower. As to continental stocks, any of the great French Rose-growers (such as Margottin, Lévêque, E. Verdier) supply them. But they are most difficult to work; and as for most soils the Manetti is a better stock, and certainly much easier to deal with, I strongly recommend it.

As to raising the Briar from seed. The seed should be gathered about November or December, and allowed to lay in a heap or pit until about the second February after—that is, about fifteen or sixteen months, in order that it may rot—that is, one summer and two winters. During this time the heap should be several times turned. After February the seed should be sown in beds and covered about an inch deep, and it will come up as thick as grass the same spring. After another year's interval the grower may bud the seedlings, and next year he will probably find ten per cent. of them have taken; and if he has patience to do all this when he can buy splendid plants for about 9d. each, he deserves to win every prize that is offered for competition the year he shows from his own seedling Briars.

There is no greater mistake, however, than to suppose that old plants will not throw good flowers. If they are properly treated they will, and it was only the other day that I heard of a grower who won the amateurs' challenge cup at Birmingham who shows from plants ten or twelve years old. May I take this opportunity of wishing you, gentlemen, and all the readers of our Journal, particularly rosarians, a very merry Christmas, though I am afraid the great day itself will be a thing of the past before these lines appear.—WYLD SAVAGE.

### MRS. PINCE'S BLACK MUSCAT.

I HAVE grown the above Grape now for the last six years, but I must confess that I have not succeeded every season in sending fruit to table in the best condition. The berries for size and flavour are all that could be desired, but I have failed in getting that finish of bloom which adds so much to the appearance, and is also one of the chief points of excellence and perfection in all black Grapes. I have one Vine growing in a mixed house, and at the warmest end, and this house is generally assisted with fire heat about the beginning of March, and the Grapes on this Vine always attain a very fair colour, which leads me to think that Mrs. Pince requires a longer season to finish-off properly than is generally allowed it, for being a late Grape it is in most cases kept back as long as possible, and only assisted with fire heat after the Vines start; and if the autumn prove dull and unfavourable, so that the Grapes are not finished-off by September, very little bloom can be put on after that.

I have likewise two late houses planted chiefly with Mrs. Pince and a few Lady Downes. The latter invariably finishes off to perfection; but it is not always so with Mrs. Pince, and notably so this season. Three parts of the berry colour very fairly, the other part next the footstalk remaining of a dull red. Now, there are some who succeed in putting a very creditable finish on Mrs. Pince, but, from what I can learn and have seen, a far greater number have failed, and amongst them some of the best Grape-growers of the present day.

Now the question arises, Are there two varieties of this

Grape (I think this has been partially alluded to before)? or, in the absence of that, is it owing to some particular mode of culture that success is attained? The first question I intend settling for myself by obtaining some eyes from Vines on which I have seen Grapes well coloured. I shall then be able to prove them side by side with my own. I shall also commence earlier this season, and see what the effect will be, as I believe Mrs. Pince, like Gros Colman, requires a long season to finish off properly. Mrs. Pince is a very superior Grape to Lady Downe's as far as flavour is concerned, but it is evident that it will not give satisfaction under the same treatment. I should be glad to hear the opinions of others, which may perhaps enable us to arrive at the proper treatment this otherwise excellent Grape requires to make it presentable at table with as much credit as we can always accomplish with its companion, Lady Downe's.—J. ANDERSON, *Hill Grove*.

## DECIDUOUS TREES AND SHRUBS.—No. 6.

**FLOWERING SHRUBS.**—The Guelder Rose (*Viburnum opulus*) is a fine old common shrub that does well in moorland near water, and is not at all particular as to soil; and the same remark applies to the Wayfaring Tree (*V. Lantana*), of which there are both dotted (*punctata*) and striped (*marginalis*) varieties. *V. macrocephalum* has splendid heads or balls of white flowers; *V. plicatum*, with its downy-leaved variety *tomentosum*, are very fine, also *V. dentatum*. All have white flowers in May or June. *V. plicatum* and its variety require moderate shelter. 8 to 10 feet.

Mock Orange has pretty white flowers and sweet, filling the air with fragrance, which is grateful at a little distance, but very powerful when closely inhaled. The common is best represented by its double form (*Philadelphus coronarius flore-pleno*); *P. Keteleeri flore-pleno* is equally good or better. *P. Gordoniana* with its variegated variety are fine; but the finest of the genus is *P. grandiflorus speciosus*. They flower in early June, and ought to be represented in every garden, succeeding in any soil. 8 to 10 feet.

Snowdrop Tree (*Halesia tetraptera*) is highly ornamental with its white flowers, which are freely produced in May. 6 feet.

Flowering Currants yield to no other shrubs in beauty and in the abundance of their flowers during April and May. Any soil will grow them well; all they need is an open situation. The Blood-flowered Ribes sanguineum in its varieties *album*, *atrosanguineum*, and *plenum* are the most desirable; but *R. aureum* is a pretty early yellow variety. *R. Gordonianum* also has yellow flowers and is very good. 6 to 8 feet.

Lilacs, common as they are, are exceedingly beautiful and succeed in any soil. In May or early June their fine heads of sweet-scented flowers are much admired. Some of the best varieties of Lilac (*Syringa*) are *vulgaris*, lilac; *Charles X.*, purple; *alba*, white; *rubra*, reddish—all 8 to 10 feet. Of dwarfier growth are the Persian Lilacs (*Syringa persica*), bluish, and its varieties *alba*, white, and *carneum* (*dianthiflora*), striped, with the pretty cut-leaved variety—all 4 to 6 feet. The Siberian (*S. sibirica*, syn. *rothomagensis*), purple, is later in flowering.

*Kerria japonica plena* has double yellow flowers in June, doing well in a sheltered situation in light soil. Its variegated form is very ornamental. 3 to 5 feet.

Honeysuckles are well represented in *Lonicera tatarica* *alba*, white; and in *L. tatarica rosea grandiflora*, rose, in April. 8 to 10 feet. *L. Ledebourii* flowers in summer, being yellowish red. 3 feet.

Sumach, especially the Venetian (*Rhus Cotinus*), is noteworthy, its flower-heads having a light elegant appearance, and are valuable for cutting. In autumn the whole aspect of the plant is very beautiful. *R. glabra laciniata* has its leaves so finely divided as to be very ornamental, especially from its rich tints in autumn. 6 to 8 feet.

**Meadow Sweets.**—Being alike free in growth and flowering these shrubs deserve to be more frequently cultivated than they are at present; their clusters of splendid flowers entitle them to a foremost rank amongst shrubs. *Spiraea arifolia* is perhaps the prettiest, having long spikes of white plume-like flowers in June and July. *S. callosa*, rose, and *S. callosa alba*, white, are dwarf and profuse-flowering, 3 feet. *S. bella*, rose, 3 feet; *S. corymbosa*, white, 3 feet; *S. Lindleyana*, white, 6 feet; *S. Douglasii*, pink; *S. Nobleana*, pink, 3 feet; and *S. ulmifolia*, white, very good, 3 to 5 feet; all flowering between June and August. *S. prunifolia flore-pleno* has yellow flowers in early summer, 4 to 5 feet; and *S. Reevesii flore-pleno*, yellow,

low, flowers in April and May, 3 feet. *S. Thunbergii* is of graceful habit, having white flowers in June, 3 feet. *Spiræas* like a free, open, and tolerably moist soil.

Weigelas flower in April to June, and are very beautiful and sweet. They like a free open soil, and do well in peat. *W. amabilis*, rose, and its vars. *alba*, *Grænewegeni*, *Van Houttei*, both pink or rose, with *Stelzneri*, red, are the best varieties, but are not so neat in habit as *W. rosea*, which flowers later. *W. hortensis nivea* has fine white flowers, and the variety of *rosea*, *Madame Couturier*, white, is very fine. All 4 to 6 feet. *W. rosea nana variegata* is beautifully variegated and dwarf, 2 to 3 feet; *W. arborescens versicolor* is desirable for its striped flowers, and *W. multiflora* for its free-flowering, deep scarlet.

*Forsythia Fortunei* and *F. viridissima* afford yellow jasmine-like flowers in spring before the leaves, and are very desirable. 6 feet.

*Dautzia gracilis* is very beautiful in April from its white blossoms, and is well known as a fine forcing plant. In an exposed situation outdoors it does not succeed, and prefers free open soil; 2 to 3 feet. *D. crenata flore-pleno* is very pretty from its double pink flowers profusely produced in June. It grows very freely, even in an exposed situation; 4 to 6 feet. The double white, *D. candidissima flore-pleno*, flowers abundantly; 4 to 6 feet. *D. scabra* grows even more freely, and may be mentioned as suitable for moist soils.

*Cydonia japonica*, red, and its varieties *candidissima*, white; *lutea viridis*, yellow; *alba*, pinkish; and *plena*, double red, produces their flowers from February to May, most profusely in April, their high-coloured large flowers having a fine appearance. They like a free open soil. 4 to 6 feet.

*Daphne Mezereum*, pink, and its red and white varieties, with *D. Fortunei*, lilac, are very desirable from their early flowering (February to April) and fragrance; 4 to 6 feet. They bloom very freely in a young state.

*Hydrangea hortensis* and *H. japonica* vars., unfortunately, are not hardy, except in warm sheltered situations; but where they do succeed no other shrubs have such magnificent heads of flowers. In exposed situations the plants are herbaceous. They are not recommended only for warm situations, but *H. paniculata grandiflora* has a very ligneous growth, and is very much more hardy. Its flowers, or rather bracts, are produced in very large heads, creamy white in colour, blooming in late summer and autumn, having a fine effect. *H. Otaksa* has very large rosy heads of bloom, very fine. *Hydrangeas* generally are more intense in colour when grown outdoors, and plants after flowering indoors will, if placed outdoors, have the bracts changed to a bright red. 3 feet.

*Althea frutex* or *Hibiscus syriacus* is very free late summer and autumn-flowering shrub, which requires a sandy soil and an open yet warm sheltered situation. Good varieties are *azurea plena*, *elegantissima*, *Leopoldii*, *purpurea flore-pleno*, *Duc de Brabant*, *Duchesse de Brabant*, *Lady Stanley*, *ardens*, *speciosa plena*, *carnea tricolor*, and *ranunculiflora plena*. 6 to 8 feet. In cold situations they do not succeed, otherwise they are very desirable from their late blooming.

Barberry (*Berberis vulgaris*) will grow in almost any soil, and is very hardy; the flowers are yellow, very pretty in spring, and the fruit is not less so in late summer. The variety *alba* has white fruit, *lutea* yellow fruit, and *purpurea* has purple leaves. 6 to 8 feet.

*Calycanthus macrophyllus*, or the American Allspice, has chocolate-coloured flowers, and sweet throughout the greater part of the summer. 6 to 8 feet.

Bladder Sennas are handsome shrubs which need a free open soil and shelter from winds. *Colutea arborescens* with yellow flowers, and *C. cruenta*, scarlet, are most desirable. 8 feet.

*Clethra alnifolia* is a very pretty dwarf shrub, having clusters of white flowers in August. 3 to 4 feet. It prefers peat soil.

Scorpion Senna (*Coronilla Emerus*) is attractive from its yellow flowers in May, and is also elegant in habit. 4 to 6 feet.

*Edgworthia chrysantha*, a low-growing shrub with golden balls at the end of the shoots in June, is worthy of mention. It is of doubtful hardiness in any but sheltered situations and well-drained soils. 3 to 4 feet.

Fuchsias in all but sheltered situations and dry soils are herbaceous, nevertheless they ought to be in every garden. *F. pumila*, *F. Riccartoni*, and *F. virgata* are good.

St. John's-wort is very useful in dry soils or banks. *Hypericum oblongifolium* has fine yellow flowers in late summer. *H. floribundum* and *H. hircinum* are also good. 3 feet.

*Indigofera floribunda* has fine pea-shaped flowers in late summer, and *I. decora alba* affords a good contrast. They like a free open soil and shelter, but moisture when growing. 2 to 3 feet.

*Jasminum fruticans* with *J. nudiflorum* have yellow flowers, the former in summer and the latter in midwinter. In sandy soil they, though classed as climbers, form spreading shrubs.

*Leycesteria formosa* has white and purple flowers in August, and its fruit is very greedily eaten by pheasants. 4 feet. It likes free open soil.

Tree Paeony deserves to be more frequently seen, and in greater number. Few plants have such large, varied, highly-coloured noble flowers. They prefer free open soil and sheltered situations. There are many fine continental vars. 3 to 6 feet.

*Prunus triloba* has fine pink flowers profusely produced in April. 6 feet.

Cinquefoil (*Potentilla fruticosa*) affords yellow flowers in summer, and has silvery foliage. *P. floribunda* is more free-flowering. 3 feet.

Brambles are so common that no one cares to have them, and yet the Sweet Bramble (*Rubus odoratus*) has showy pink flowers in July, and many others are worthy a place, especially the variegated Bramble; and Sweet Briar fills the air with fragrance, and is very effective from the profusion of its hedges and their orange colour. It should be planted by thousands.

The preceding strike me as some of the most desirable of deciduous shrubs which I have seen and have taken note of; and now that there is an apparent desire for subjects of interest and variety, and as the claims of deciduous shrubs are great, it is hoped those who can see beauty and interest in something taller than an herbaceous plant will perceive that many shrubs of late neglected await their acceptance in deciduous as well as in evergreens.

*Azalea pontica* vars. appear in fine contrast with Rhododendrons. The light green of their leaves stand out grandly in contrast with the dark foliage of Rhododendrons, and their flowers are equally effectively contrasting, and have a delicious fragrance. The Ghent varieties are the largest flowered, and are mostly high coloured, as orange, scarlet, flame, &c., descended from *A. calendulaceum*. The light-coloured or white varieties are offshoots of *A. viscosa*, in which are found the smallest flowers with the highest fragrance; and the pinks, roses, and purples are larger in flower than the last, but smaller than the first, having a very twiggy growth. The plants thrive in any good loamy soil on a cool bottom, peat being no more absolutely required for their growth than Rhododendrons, and hares and rabbits have as great a repugnance of Azaleas as of Rhododendrons.—G. ABBEY.

### SPECIAL SOCIETIES FOR THE ENCOURAGEMENT OF FLORIST FLOWERS, &c.

ONE of your contemporaries publishes an article in a recent number on what it calls "Special Societies." The article in question is probably meant to be amusing, but its tone is rather dolorous nevertheless. It looks upon such societies as "a most unwelcome symptom of decay and disintegration of what ought to be the central body." Your contemporary does not hope to check "the tide," he would evidently do so if he could—that is, unless they could all be banded together for "the common good." The promoters of such societies are also kindly told that "every man has a right to choose his own recreation, and to indulge it so long as he does not hinder his neighbour in the prosecution of the same wholesome object; only don't let him fancy he is promoting some great and worthy object, such as horticulture for instance." Your contemporary surely cannot be ignorant of the fact that such "special societies" have been in existence for more than half a century, that they were in a prosperous condition before its first number was printed, and that they continued to prosper simultaneously with the great central society, which is evidently alluded to.

My object in writing to you at this time, however, is not to find fault with the remarks made in another paper, but to put in a plea for one or two of the so-called "special societies." First in order is the National Auricula Show, to be held at the Crystal Palace, Sydenham, in April next, and this will be upon a scale commensurate with the estimation in which the Auricula is held. In 1864 the National Auricula Show was held in the Royal Botanic Gardens, Regent's Park, on April 30th. Since that time the Auricula has been much more extensively

cultivated, and for one plant exhibited in 1864 we expect ten in 1877 at the Crystal Palace. One great grower who held a high position in that year will be missed—Mr. Heady of Stapleford, but we shall have others who have since risen to a very high position in the culture of this flower. I do not find the names of Horner, Simonite, Barlow, Royds, Gorton, and others, now well known in the north, as exhibitors thirteen years ago, but whom we hope to meet next season. Another very cogent reason for holding an Auricula show next year is this, that very probably the Royal Aquarium Company and also the Royal Horticultural Society will not be in a position to do so.

A Carnation and Picotee show has also been in contemplation, to be held in the south. Some of the best growers of these flowers have been removed by death or other causes, but it can easily be seen by referring to the prize list of last July at South Kensington that others equally good have taken their places, the exhibitors having been much more numerous than they have been for many years, and the flowers were of the best quality. Now, if no Society is in a position to offer prizes for them at the right time, which is the 20th of July for London, and if the growers of them band together and raise money for a prize fund amongst those interested in their culture, are they to be told for the first time during the last fifty years that they "must not suppose they are promoting some great and worthy object, such as horticulture for instance?" Does it not seem very much like an insult to honest industry to throw such a remark in the face of such a man as Mr. Benjamin Simonite of Sheffield for instance, who has worked with such patient industry for nearly forty years in raising such flowers as he has done, and bringing them before the public through the medium of the National Carnation and Picotee Society? It is encouraging to such men to feel that others appreciate their labours, as in addition to Manchester the National will probably hold a show at Leeds next season. If, as is very probable, a show can be held in London, there will be no lack of exhibitors, and no Society, large or small, will suffer, and let us hope the cause of horticulture will be no loser.

Then we come to the Tulip, and it does seem passing strange that such a glorious flower is not more grown. What other flower bed can compare with a bed of Tulips in May? To grow Tulips to perfection it is necessary to go to some expense in the way of preparation of the ground and erecting some protecting material to shelter them from the heavy rains which lodge in the axils of the leaves, and from frosts which freeze the gathered water and injure the blooms; but let not the patient and laborious florist suppose that if he ventures to place his perfect flowers on an exhibition table he is "promoting the cause of horticulture for instance," if he ventures to give his money and, what is often to him of much higher consideration, his precious time in sustaining a society for its encouragement. But let me ask, Why are there so many ardent cultivators of the Tulip in the neighbourhood of Manchester and so few near London? There is, and let us utter the word cautiously, a "National" Tulip Society there. It is moveable, as all societies worthy of the name ought to be. It was held at Manchester last year, it is prosperous, and new growers are yearly added to its ranks. The general public see the flowers, they go home and think about them, they wish to grow a collection, and many become growers who will not exhibit; others are advanced to the grade of fanciers, and they wish to place their flowers beside the noted growers, and none but a true florist knows the hours of happiness experienced in watching the development of this or that flower, obtained with difficulty, and tended through winter snow and summer heat with loving and unceasing care. Does any Society consequently suffer? Is the cause of horticulture promoted, or is it not?

Roses—they ought to have come first, for the Rose has many advocates; but one question only—Did the National Rose Show injure the Royal Horticultural Society, or has the National suffered by its contact with it? Let the Rose-growers answer. But what about a National Onion Show? O ye men of Banbury! will you dare to table your White Spanish before you are "thoroughly well versed in general horticulture?" Ye artisans of Sheffield! how can you pour the liquid manure to the roots of your mammoth red Cabbages? How can you mulch them round the roots and wheel them to your annual exhibition, each one large enough to fill a barrow, and you not "thoroughly well versed in general horticulture?"

Well, then, the question that arises is this, How is horticulture best promoted: by large shows or small shows? I say, By both. Take any district (and I have had experience with many);

when a flower show has been established, year after year the exhibitors become more proficient, and the productions they exhibit and which they place before their employers (if gardeners) are improved year after year. And the societies that have been formed for the encouragement of florists' flowers cause the florists themselves to take a greater interest in them, to grow their flowers better; and the general public, who have no other opportunity of admiring them, can do so at the exhibitions, and a love for the flowers is fostered and spreads into places where they were before unknown. This many florists can abundantly testify. Let us encourage them all we can, from the lovely queen of flowers even to the humble Cabbage, and when the Royal Horticultural Society has been released from the fetters with which it is still bound, those at the head of affairs will find the work has not been neglected. We shall be pleased to hand it over to them, and the work will go on prospering and to prosper. The work of Mr. Wilson will not be in vain. Thousands of Fellows will rally around the old Society, and its last days will be its best days.—J. DOUGLAS.

### BUTOMUS UMBELLATUS.

To say that this flowering Rush is a lovely flower is saying a good deal, but that falls far short of what might be said of one of the finest hardy aquatic plants that we possess. It



Fig. 79.—Butomus umbellatus.

is mostly met with by the sides of sluggish streams and partially stagnant ditches and watercourses, and must be seen in its native home to be seen in all its beauty. It is said that the sharp edges of the leaves of our favourite plant cause the mouths of oxen to bleed when browsing upon it. We may reasonably suppose from the above that its rough edges are intended for a protection. Gerarde says, "The water Gladiolus, or Grassie Rush, is of all others the fairest and most pleasant to behold, and serveth very well for the decking and trimming-up of houses because of the beantie thereof." The finest plant in cultivation I ever saw was in a pond in the garden of Dr. Herbert at Spofforth many years ago. It was placed on a pedestal in the centre of the pond in a large pot about a foot below the surface of the water. When in bloom it was worth

a day's journey to go and see. Native though it be, it requires care to get it established. I find it a good plan to establish the plants in pots, then sink the pots in a muddy bottom, when the plants will take care of themselves. They may be potted in any good loam, and are increased by division when growth is commencing. They are telling plants in a collection of native plants on an exhibition table.—N.

### TRAINING VINES.

LET me thank Mr. W. Taylor for his account of training Muscats on the extension system. Practical men like to see depicted the works and the places which are worthy. An illustration which appeared in your pages some months ago showing a splendid crop of Grapes grown by Mr. Cottingham of Heath near Mansfield was a worthy example for other growers to imitate, and could not have been sufficiently represented without the artist's aid. The figure of Mr. Taylor's vinery shows no such crowding of bunches, but it shows a disposition of wood which has assisted the Vines to become extremely vigorous, which have carried splendid Grapes, and will yet produce more.

The mode of training illustrated is both suggestive and instructive. It not only shows what Mr. Taylor told us in his notes of the horizontal main rod being trained past the "nursing" Vines, but it shows what he did not tell us of the remarkable strength of the Vines from the ground to the bottom of the rafters and the diminishing strength of the canes as they reach the top of the house. This is just as it should be, but how seldom is it accomplished! Many more than half of the Vines in Britain are the smallest nearest the ground, and consequently the thickest at the top. When in that condition it follows as a matter of course that the first flow of sap has to traverse restricted channels. In the case of Mr. Taylor's Vines the first outflow is unimpeded, for the first few feet of the stem is of marvellous thickness in comparison with the upper growth. How has this been effected? I think the illustration shows it.

In the first place Mr. Taylor appears to have encouraged the growth of some foliage even down to the ground. That is undoubtedly most important in influencing the correct thickening of the stems of the Vines. How often do we see the growths rubbed quite off the stems from the ground to the rafters—perhaps even before the Vines are planted, or at any rate immediately afterwards! That is a common practice, but a great mistake. If the lower portion of the stem of the Vine is denuded of its buds in infancy and made as smooth as a water pipe it will not swell much faster than will that pipe; but allow the leaves to remain, and the stem will increase in size in a natural manner, and certainly to a beneficial end. Mr. Taylor knew better than to denude the lower portion of his Vines of foliage; he left a portion to attract and retain the sap where it was especially required, and thus laid the foundation of his robust Vines. Those who are planting Vines will do well to follow the example thus given.

Another important matter is in equalising the flow of sap by the mode of training which has been adopted. The flow of sap has something in common with the dispersion of smoke. With a straight upright shaft direct from the fire the smoke rushes upwards with great force, and will turn a "jack" which the strength of a man cannot resist; but first conduct the smoke along a horizontal flue before it is permitted to ascend vertically, and a child may prevent the "jack" from turning if it is placed beyond that horizontal flue. The strength of the smoke, so to speak, is exhausted at the base of the building by the counteracting influences of the horizontal flue preventing its violent rush upwards. It is the same with the sap of the Vine, but to a greater extent in consequence of its greater velocity and force. I have read that an old author and experimentalist, who made elaborate experiments on the force of the sap-movement of the Vine, found that in a mercurial gauge fixed to the bottom of the Vine the mercury was raised by the force of the sap 38 inches, equivalent to a column of upwards of 43 feet of water. I think that fact (for I am not aware that it has ever been disputed) is well worthy of consideration in reference to training Vines.

A horizontal flow checks the violent upward rush of sap, which is the real cause of so many Vines being too weak at the bottom and over-luxuriant at the top. If all the growths were trained horizontally the Vines would probably be deficient in vigour; but by the practice adopted by Mr. Taylor of taking vertical or nearly vertical rods from the horizontal



main, a free, regular, and healthy sap-movement is fostered and the Vines thicken at their lower parts and produce there laterals and bunches equally as fine as at the tops of the canes. I am well aware that Vines will thus bear without a horizontal main rod when judicious pruning is adopted and the lower laterals have that attention which is given by the best cultivators; but I am nevertheless of opinion that Mr. Taylor's plan is the best in principle, and is calculated, with a minimum amount of care being bestowed, to produce a maximum value of fruit, and especially an equal distribution of that fruit on every part of the Vine.

But without adopting the extension system of growing the Vine much may be done by training in securing an equalisation of fruit, and in having the lower portions of the stems of Vines as thick or thicker than the upper. If Vines on the single-rod system are trained slantingly at an angle of 45° instead of tying the rods directly upwards, the growth is more regular, in consequence of the sap being more surely guided into the lower laterals, yet it has sufficient force for ensuring growth sufficiently robust. I fancy I can perceive in the illustration that Mr. Taylor's fruiting rods are trained slantingly notwithstanding the horizontal main, and no doubt he is quite right in so training them, for it is the very position which the young growths would seek for themselves, thus giving a hint which an observant and practical man would be likely to follow.

Vines grown on the restricted or single-rod system I have found to be decidedly superior when trained slantingly than when what I may term vertically trained. This has been so in a house having a great length of rafter, and the advantages can hardly fail to be still greater in short-roofed vineries, for it is clear that by training slantingly a much greater length of cane is obtained, and which is often of great value in contributing to the Vine's health and its continued prosperity.

In this mode of training one condition must be carefully attended to—the rods must not be too close together. I know it answers well when the canes are trained 3 feet 6 inches apart. I should not think it wise to adopt the system with rods much closer, or the foliage might not receive sufficient light, and especially if the roof of the vinery was somewhat flat.

I think the training of Vines is important as exerting considerable influence on growth. The matter is worthy of being alluded to by other growers who have studied the habits and requirements of the Vine. If gardeners are "the slaves of fashion" in one thing more than another, I think it is in limiting Vines, however short they may be, to one rod, and training that rod over the shortest course to the apex of the house in a manner as nearly vertical as the circumstances will permit.—A NORTHERN GARDENER.

### A PLEA FOR JAPANESE CHRYSANTHEMUMS.

"WHAT lovely artificial flowers! What beautiful paper flowers you have there!" These were the exclamations accorded by some visitors a few days since on seeing a stand filled with cut blooms.

They were indeed wrong in their judgment, but many of the Japanese Chrysanthemums may be likened unto artificial flowers from their grotesque appearance. The fantastic and twisted florets of some bear a very close resemblance to artificial flowers. The Japanese possess many advantages over the round incurved varieties, having a lightness of their own. They are among the first to bloom, James Salter and Elaine being the earliest; the first a pleasing lilac, the other pure white, and a well formed flower under high cultivation; and in this section are also to be found some of the latest to bloom of the whole family, and which will assist in keeping the conservatory gay to the end of the year.

I have now before me (December 23rd) creditable blooms of Meg Merrilees, The Mikado, and Grandiflora, but the majority are over; still with a selection blooms may be had from October to Christmas, and in arranging them for home decoration they are most suitable, keeping for weeks in dry rooms if the water is attended to.

Their culture is very similar to that already advocated in previous articles, merely taking strong cuttings from now till March, and growing the plants on without interruption, dis-budding for early flowering and exhibition purposes; but if late blooms are desired dis-budding need not be resorted to, but the smaller and later buds should be permitted to expand. I have never seen these plants grown into specimens, still I

think it possible that James Salter, Magnum Bonum, Fair Maid of Guernsey, and some others might be advantageously used for that purpose. Some of the varieties are very shy in throwing-up suckers for propagation, and others increase most readily.

The following will be found a good selection of eighteen varieties:—James Salter, Elaine, Fair Maid of Guernsey, Fulton, Baronne de Prailly, Magnum Bonum, The Mikado, The Daimio, Chang, Auratum, Meg Merrilees, Madame Godillot, Erecta Superba, Prince Satsuma, The Wizard, Garnet, Dr. Masters, and Grandiflora.—J. W. MOORMAN.

### CUCUMBER CULTURE.

I QUITE agree with your correspondent (page 516) as to turfy loam and manure water instead of mixing manure in the soil, as I have grown Cucumbers both ways, and in 1874-5 I grew rather largely for Covent Garden Market.

The Cucumber houses were four span-roofs—two 96, and the other two were 100 feet in length; of course it was no use putting a few seeds in a bell-glass or a single flower pot, so I put the seeds in some shallow boxes and placed them in the propagating pit, and as soon as the plants were large enough to handle I potted them into 60-sized pots, from them into 48-sized pots, afterwards planting in the beds in turfy loam. For the first month they received clear water only, and then I commenced using weak manure water twice a-week, and continued doing so throughout the season. As soon as the roots were well through the soil a thin layer of fresh loam was added all throughout the season, and the result was I lost only one plant the first year and none the second, and no plants could have been healthier nor could have fruited better than they did. I feel sure that if the manure—which very often contains a quantity of grubs, &c.—were less used Cucumbers would be more plentiful. I am still of opinion that manure has something to do with the plants being so liable at times to disease.

As to sorts, I have tried a large number from time to time which I have seen recommended; but with me, either for market or for private use, I have never found any to beat Telegraph, Sion House Improved, and Munro's Rabley, which I have proved to be quite as hardy or hardier than Telegraph.—J. B. WETHERINGSETT, *Stonham, Suffolk*.

### THE CHRISTMAS MARKET AT COVENT GARDEN.

SATURDAY morning, the 23rd inst., was a "lively time" at Covent Garden, when the best of garden supplies were struggled for even with unusual zest (if that is possible here), for the vast requirements of London during the festive week. There is no mistake about the citizens enjoying themselves at Christmas. The festival is prepared and provided for months previously, and the humblest are not satisfied with less than the "best" of what is provided at this special season: hence the piles of vegetables were hurried off almost before daylight. The residue remaining at nine o'clock was composed mainly of the coarser vegetables, such as Savoys, Turnips, &c. Broccoli (Snow's Winter White) was speedily seized, also the best of the Brussels Sprouts, and there was the usual rush for Sage and Onions. The vegetables were generally good, thanks to the long mild autumn, except Potatoes, and these were coarse. Seakale and Rhubarb were plentiful and good. Asparagus was also represented but sparsely, and salads of all kinds were abundant. Holly was unusually destitute of berries, and Mistletoe, perhaps, unusually fruitful.

The flowers were very attractive, and "shined through the gloom" of the foggy sleety morning. Poinsettias were brilliant with their fiery heads, and baskets of Roman Hyacinths were lovely in their snowy whiteness. Dutch Hyacinths were also "in" in their various colours, and were excellent considering their earliness. Duc Van Thol Tulips—white and scarlet—as mixed in close large masses had a most cheerful effect. There were also Heaths, Azaleas, Callas, Solanums, Dracenas, Palms, Primulas, and Lily of the Valley.

But as if these were not enough, or their price, perhaps, too much for many, there were artificial plants and flowers struggling through the mist, as if trying to look natural, and almost succeeding. There were "vegetable flowers," too—flowers delicately carved from roots and tinted with various colours. The designs formed with Everlasting Flowers were numerous and tasteful, white largely predominating in their

arrangement, the touches of the warmer colours being extremely slight. Camellias, Roses, Bouvardias, Azaleas, and Lilies were the prevailing flowers for bouquets and "button-holes."

Fruit was not as a whole superior. The best Grapes were Lady Downe's in the window of Messrs. Webber; there were also fairly good Muscats. The general bulk of the Grapes on sale was, however, inferior. Pines were of average quality, in perhaps under-average numbers. Pears and Apples were moderately good—Lady Apples from America being extremely high-coloured, and shone as bright as if "iled." It was not an aristocratic market, but the produce was such as to suit the average Londoners at their annual feast.

### ROYAL HORTICULTURAL SOCIETY.

The following address has been issued by the Council to the Fellows of the Royal Horticultural Society:—

Before the commencement of a new year the Council are desirous to make the Fellows of the Society acquainted with the actual position of their affairs.

On the 2nd August last, at a public meeting of the Fellows, the following resolution was carried:—

"This meeting approves of the policy of the Council in endeavouring to effect a separation of interests between Her Majesty's Commissioners and the Royal Horticultural Society upon equitable terms with the Debenture-holders and Life Fellows, and requests the Council to urge an early settlement with Her Majesty's Commissioners."

The Council being advised that this separation could only take place with the concurrence of the Debenture-holders, placed themselves in communication with a duly appointed Committee of that body, and with Her Majesty's Commissioners.

On the 27th October the Council received from the Secretary to the Commissioners a copy of a resolution passed at their last meeting:—

"That the Special Committee of Inquiry should be authorised to conclude an arrangement with the Royal Horticultural Society for a termination of the lease of the Horticultural Gardens on the footing of a payment to the Society for the Debenture-holders of the present value, calculated at 84 per cent. of the sum which may become payable by the Commissioners to the Society in 1892—namely, half the debenture debt, with power for the Special Inquiry Committee to make an arrangement as to the goods of the Society should they see fit."

This resolution was forwarded to the Committee of Debenture-holders on the 2nd November.

A meeting of the Debenture-holders was held on the 23rd, and the following resolution was passed:—

"That this meeting declines to authorise the surrender of the lease of the Gardens to the Commissioners on the terms mentioned in the letter of the Society of the 2nd November, 1876, and the meeting will not authorise a surrender of the lease unless provision be made for the payment of the debenture debt in full, by reasonable instalments with the interest in the meantime, and that a copy of this resolution be forwarded to the Society."

In these circumstances no course appears open to the Council but to continue their tenancy of the South Kensington Gardens.

In the absence of subscriptions sufficient to maintain these Gardens in proper repair, they would gladly have surrendered them had they been in a position to do so, and have devoted themselves to the promotion of the objects of the Society in its strictly scientific character.

But this separation being for the present impracticable, it will be the duty of the Council to apply such funds as they may receive in accordance with their Charter.

The Scientific, Fruit, and Floral Committees will conduct their operations as hitherto, scientific experiments will be continued at Chiswick, the fortnightly meetings at South Kensington will be held as before, one great show at least will be held in London, and arrangements will be made for holding annual provincial shows in some populous centre.

The maintenance of the Gardens at South Kensington in their previous condition must depend upon the desire of the inhabitants of that neighbourhood, as expressed by their subscriptions.

The Council have already announced that these subscriptions not only fall far short of the sum (£10,000), on the collection of which at the end of three years from December, 1875, the continuance of their lease of the South Kensington Gardens will depend, but are at present insufficient to maintain those Gardens in a befitting state.

Should the annual subscriptions continue inadequate for this purpose during the next two years, the Council can only look forward to the termination of their lease by the action of the Commissioners.

In the meantime the Council will spare no effort to prevent this unfortunate termination of a scheme launched under such high hopes and promising auspices.

The Council having reason to believe that the table of payments and privileges in force in and before 1872 is generally considered as more acceptable than that now in force, have

determined to revert to it, with this additional concession, that the two-guinea Fellows will have the privilege of one transferable ticket;\* and in order to facilitate an increase of members, the rule as to the payment of entrance fees will be suspended during the year 1877.

It is also proposed, subject to the sanction of a general meeting, to admit members of the Society upon the payment of one guinea annually; such members to have all personal privileges of Fellows except that of voting at the meetings of the Society.

For the convenience of the Fellows the new table of payments and privileges is appended.

#### SUMMARY OF THE PRIVILEGES OF FELLOWS FOR THE YEAR 1877.

##### *Privileges of a Fellow paying Four Guineas a-year.*

1. Entitled to two yearly tickets, both of which are transferable, and which give the bearer personal admission every day, and to all Shows, Fêtes, Conversazioni, and Promenades, both at Chiswick and South Kensington. (When the Fellow exercises his or her privilege of entering the Gardens, one of these tickets must be used by him or her.) N.B.—The Garden at Chiswick is closed on Sunday, and the Garden at South Kensington is open from 2 P.M.
2. The right of introducing two friends with the bearer of each ticket on every day of the week. (Show and special days excepted.)
3. The power of admitting daily (Sundays excepted) eight friends by written order to the Garden at Chiswick.
4. To visit the shows at an earlier hour than the general public.
5. To purchase for £2 2s. each, transferable tickets, which confer on their bearers all the privileges of personal admission and of introducing friends that the Fellows themselves could exercise.
6. To receive forty orders giving free admission to promenades and on all days excepting show days and special days.
7. The right of purchasing, previous to the day of the shows or promenades, tickets at reduced prices.
8. A share of such seeds, plants, and cuttings of Vines and fruit trees as the Society may have in sufficient numbers for distribution by ballot or otherwise.
9. To purchase the flowers, fruit, &c., grown at Chiswick which may not be required for the use of the Committees.
10. To receive a copy of the publications of the Society.
11. The right of voting at all meetings.
12. The right (on giving notice in writing) of being relieved from the yearly payments while resident abroad.
13. Free admission to the reading room and Lindley library.
14. The wives or husbands of deceased Fellows, upon being themselves elected Fellows, are exempted from the admission fee.

##### *Privileges of a Fellow paying Two Guineas a-year.*

15. Entitled to one yearly ticket, transferable, admitting the bearer every day, and to all Shows, Fêtes, Conversazioni, and Promenades, both at Chiswick and South Kensington, and the bearer with two friends on all ordinary days.
  16. Entitled to half the privileges mentioned in Nos. 3, 6, and 8.
  17. The same as Nos. 4, 5, 7, 9, 10, 11, 12, 13, and 14.
- The Society has no debts; its Debentures are a charge on its surplus income only, and being incorporated by Royal Charter, the Fellows incur no personal liability beyond the payments of their annual subscriptions.

### GARDENING REMINISCENCES OF THE PAST FIFTY YEARS.

THE end of one year and the beginning of another would seem a becoming time to take a retrospect of the past; I will, therefore, avail myself of the license usually granted to those of mature years, and will endeavour to call to memory something of matters relating to the calling at a time when gardening periodicals were unknown and the number of standard works bearing on the craft were also limited, but which, I may add, were mostly highly respected by many admirers. Our north-country brethren had their Nicoll and subsequently a McPhail, while those of the south had their Abercrombie and Forsyth; and the "Botanical Dictionary" of Miller was one of the standard works often referred to as unique in its way, while some works of lesser account represented all that was thought prudent to publish on the culture of flowers. It is right here to say that the age was one of exclusiveness, as there was assumed a sort of secrecy in the art of cultivating certain plants which it was thought improper to make too generally known. Modes of growing Auriculas, Pinks, Tulips, Ranunculuses, &c., were pretended to be kept as profound

\* The recent agreement with the Commissioners will, however, prevent the fresh creation of any life privileges.

secrets by those entrusted with them. But the age of enlightenment began to dawn on such matters, and the appearance of that great pioneer of gardening periodicals London's "Gardeners' Magazine" led to the divulging of many of the so-called secrets which were supposed to be necessary to ensure the good cultivation of certain plants. But even this was very tardily accomplished, and I well remember a successful grower of Tulips offering through the pages of the "Magazine" to divulge to twenty subscribers that would pay him a guinea each his mode of inducing the finer varieties of Tulips to break out into offset bulbs with greater facility than they were wont to do. This offer, as might be expected, led to many conjectures, which appearing in print, no doubt some of them giving the hint to the mode practised by the supposed successful cultivators, added to which the known antipathy of the talented conductor of the journal to everything that tended to concealment of anything useful to mankind, aided by the greater diffusion of knowledge that was then springing up, tended, as is usual, to the other extreme—excess, and it became customary to scoff at everything that was made known. But certainly the public at large were gainers by the matter, although it took some years to effect the object.

I well remember the time when it was customary for a visitor to a nursery at grafting-time to find when he approached the man performing the operation that the knives all wanted sharpening, and that scissors were not at hand, but had to be sent for, and did not arrive till the stranger had gone. Other things were done in the same exclusive manner, and it was only by degrees that a change could be accomplished, yet the change did take place, and the cheapening of literature which followed towards the close of the third decade of the present century assisted materially to bring about a more liberal state of things.

But it must not for one moment be supposed that I here disparage all that was done by the class of cultivators at that early period, and I question much if the culture and management of Auriculas, Pinks, Tulips, Ranunculuses, and some other flowers are as well understood now as they were then, and the number of varieties of each were as numerous then as now, and I am not sure but that some of the kinds known then are still held to be good now. I have sometimes been agreeably surprised in this neighbourhood, where fruit is largely grown, to find that some of the Lancashire Gooseberries that I was frequently brought in contact with years before the passing of the first Reform Bill, are the favourites here grown for market; notably one which a friend told me not many weeks ago, called Lancashire Lad, is wanted at the present time—the autumn of 1876—by tens of thousands, while Crown Bob, Ploughboy, Roaring Lion, and others have all had their day and have been more or less admired. We must not be too hasty at charging our predecessors with any lack of the knowledge necessary to good cultivation; and as these Gooseberries were grown during the reign of the latter Georges, we must give those growers the credit that is their due. I well remember the time in which prizes obtained for large Gooseberries were exhibited by their respective winners with great pride. Many other things were also patronised at the same time, and I am far from certain but that better Melons and Cucumbers were grown then than now, although the accommodation for that purpose has been widely increased since.

It would not be fair to pass over the period above alluded to without noticing the habits of the young men who followed the calling of gardeners at that time. Well, then, I may say that as a whole they paid more attention to botany than is generally done by the same class now-a-days, and the immediate district in which they lived was duly scoured for rare specimens of British plants, besides now and then long journeys taken to some locality more rich in what was considered valuable and scarce. I well remember a place where that difficult plant to propagate, *Cypripedium Calceolus*, was said to be found, while other localities yielded the Butterwort, Pennywort, and other favourites. Ferns were not so much studied then as since, but botany as a science was pursued with more zest at that time under the Linnæan system than it has been since that system has been to a certain degree superseded by the natural system. But the young gardener's attention was not monopolised wholly by wild plants. New and promising species of plants were added to the class of what we may call florist flowers. The Dahlia, which had made its appearance a few years before, was fast merging from the single to the double condition, and new names had to be coined for the new varieties resembling in many respects those in existence for Auriculas,

Polyanthuses, and the like. The Pansy too followed suit, while the greenhouse and plant stove consisted more of botanical collections than the same structures do now. But a change was coming, and the large and fine collection of Cape Heaths which had taken years to collect were giving way to garden varieties of the popular Pelargoniums; and the old Scarlet, which was often met with growing against the back wall of some glass structure, was also on the point of being improved upon. And I well remember the noise that was made when a "White Scarlet" made its appearance, while amongst the earliest improvements on the old Horseshoe was Brighton Hero, Sol, and a strong-growing one the name of which I cannot now call to memory.

Amongst the fruits which received especial attention at this time the Peach may be mentioned, and if we could see placed on the exhibition table at the present day a dish of the fruit produced at that time it would compare very favourably with modern productions; while the trees which produced the fruit, their appearance and the mode in which they were managed, would be equally favourable to the certificate for good culture being awarded to the earlier cultivators. Other fruits were not neglected. The varieties of Strawberries were far from numerous then; but one kind at least made its appearance then or soon after, which still holds a good position at the present day, and it is questionable even now whether any other variety is cultivated to as great an extent in 1876 as Keens' Seedling, which first made its *début* some fifty years ago. I fear I cannot say so much in favour of one that succeeded it with a high-sounding name, and coming at the same time from one of the most successful growers of this fruit at the time speedily fell into disrepute. Wilmot's Superb shared the fate of many a one since, and it is now, I expect, numbered with the past. But the great favourite was the Gooseberry, for which there were village shows at most places where as many as twenty dwellings were congregated together, size and weight being the object aimed at. An application of the same principle found expression in another form, and the Giant Rhubarb owes its origin to that period, whilst very large Celery was also produced. I think among other useful vegetables the Brussels Sprouts was not much known until this time, when its usefulness was duly acknowledged, but I do not think it was until some years afterwards that any especial improvement took place in Peas.

For some years after the period above alluded to nothing particular occurred in the usual routine of the gardening world but that slow but steady increase of knowledge consequent on the cheapening of literature which took place then, and the commencement of new and popular works of instruction and entertaining reading, one of the foremost being the "Penny Magazine," which after attaining an unprecedented circulation seemed to raise up rivals, which in course of time vanished; but "Chambers' Journal," which started coeval with the "Penny Magazine," survives yet, and is regarded now amongst one of the best of the cheap serials. But gardening works were not neglected even then, and a rival to "London's Gardeners' Magazine" sprang up under the editorship of two of the most eminent gardeners of the day; but this after a brief period of usefulness seemed to merge into one devoted wholly to floriculture, thus paving the way for a weekly newspaper which appeared some time about the middle of the fourth decade of the century.

The extraordinary hard winter of 1838 following, scope was afforded for comparing notes of its effects. That winter was one of the hardest we have ever had. Even the hardiest class of German Greens suffered more or less, and on the moors and waste places in the country our native Gorse was very much cut. Hard winters also occurred in 1844-45 and 1846-47. A great impulse was given to gardening about this time by the cheapening of glass, for which the world has not been sufficiently grateful to the late Sir Robert Peel.

Other changes were taking place at the same time. Flower gardening on what has been called the massing system was introduced, and varieties of Geraniums, Verbenas, Petunias, Fuchsias, and other plants were raised in great numbers, while the old class of florists' flowers declined in public estimation. Horticultural societies then started up in many provincial towns; and the one at London seemed to be at the height of its glory, and was often referred to as giving laws to the others, as well as dictating matters relating to the quality of fruits and vegetables. About this time, too, the rapidly increasing use of the railway was found out, and London, which had formerly depended for its supply of vegetables and

fruits from the district immediately surrounding it, received large accessions from distant places; and the free-trade policy inaugurated at this time led to imports from abroad, which, though small at first, gradually rose to gigantic proportions; and as travelling became more easy our young gardeners had opportunities of visiting London and other distant places at less sacrifice of time and money than had formerly been necessary to visit the county town of the district where they lived.

Following on this came the first general Exhibition of 1851, of which gardeners have great reason to be proud, since the design for the building and its erection was confided to a gardener, after the learned profession by whom such things were usually erected had failed to produce a design at all applicable to the purpose wanted; and the able manner in which this was accomplished by its talented projector (Sir Joseph Paxton) is known far and wide. After the building was no longer wanted where it was erected, its removal to and the laying-out of the garden at the place which it now ornaments, forms an epoch in our history not likely to be easily forgotten. Coeval with this, gardening matters were not stationary elsewhere. Glass structures kept rising in all directions, and the hints and ideas which engineers and architects received from the Crystal Palace are seen in many of the finest railway stations and other similar erections in the kingdom; and the spirit of enterprise fairly launched displayed itself in many ways. Collectors of plants were sent to all parts of the world. The Himalaya and Californian ranges had previously yielded many of their floral treasures, and from the latter choice-flowering annuals had been sent by poor Douglas and others years before. But other fields opened out. Intercourse with China being permitted more freely than before, a host of new plants and choice shrubs were sent over, and the skill of our nurserymen and propagators soon placed them in the hands of the public; while older plants did not get neglected, but some that were thought to require the aid of a glass house to protect them in winter were now found to endure our winters, and added considerably to our outdoor display. Notable amongst this class were the seedling *Rhododendrons* obtained by crossing the half-hardy species from northern India with those we already possessed. Hence a mass of beauty that it would seem hopeless to surpass has been created, which has forced its way into places that were previously little better than wild unsightly wastes; and it is not too much to say that the *Rhododendron* is now planted where only the very commonest of our wild plants once found a home, and many a poor plantation is rendered gay by their flowers where only a coarse herbage once existed.

In like manner other plants have become common as the spirit of enterprise has kept pace with the introduction of new things, and I well remember the warm summers of 1857, 1858, and 1859 gave hopes that many tropical plants would do outdoors with us; and some who had tried the Chinese cattle-feeding plant, *Sorghum*, in 1859 were so elated with the success attending it that very large breadths were planted in 1860; but that disastrous year dispelled the delusion we had fallen into. The cold wet summer of that year, and the hard winter which followed, reminded us that the geographical position of Great Britain still remained where it had done for centuries, and that a fine temperate season could only be looked for now and then. Perhaps it is as well that it is so, for acquaintance with warmer climates informs us that they are not exempt from the cares and troubles which we are told is the fate of all mankind, and a knowledge of the difficulties we labour under has the natural tendency of increasing our industry to counteract these difficulties. But it is needless moralising on such matters here. Suffice it to say that after the cold wet season of 1860 we had two or three dry years, and the outcry for water was almost as loud as that which took place against it the year before; but a favourable season taking place in 1865 seemed to put all into good spirits again, and all went on well till the autumn, or rather winter of 1866-67 proved to us that our lot was still cast in the northern latitudes, and with the return of spring great complaints were made of the destruction of some choice Conifers. These casualties were perhaps after all more ideal than real, and attention being drawn to other matters, industry did much to compensate for the severe frosts which had been so destructive.

The events of the few past years are still in remembrance. The startling productions of monster bunches of Grapes were duly commented upon in the Journal by those well qualified to do so, and I note the very prominent position the Rose has taken

during that time. I think further comment may be left to all who have been able to read during that time, and I will close my notes with the usual compliments which the time of year calls forth, trusting that the new year we are entering upon may prove as favourable to all as everyone in his individual case can wish it to be; or, if otherwise, it may be consolatory to know that those who preceded us had their difficulties, without the many accessories to ensure a good result which we of the present day possess. Of the truth of this observation I feel certain that those who, like myself, have followed the calling a half-century or upwards will fully bear me out.—J. ROBSON.

### ELECTION OF PEARS.

SOME of your correspondents wished to know the names of the Pears that have done best; therefore I write the names of those I have always found best to come in succession. I state the months of ripening and names of the Pears:—

Citron des Carmes .....	July	Napoleon .....	Nov.
Jargonelle .....	Aug.	Louise Bonne de Jersey .....	Oct.
Windsor .....	Aug.	Duchesse d'Angoulême .....	Nov.
Dunmore .....	Sept.	Beurré Diel .....	Dec.
Autumn Bergamotte .....	Sept.	Beurré Boursé .....	Dec.
Beurré d'Amanlis .....	Sept.	Beurré Spence .....	Dec.
Williams' Bon Christien .....	Sept.	Knight's Monarch .....	Jan.
Marie Louise .....	Oct.	Winter Nelis .....	Jan. to March
Brown Beurré .....	Oct.	Ne Plus Meuris .....	Feb. to April
Duchesse d'Orléans .....	Oct.	Joséphine de Malines .....	March to May
Chauvontel .....	Dec. to March		

—WILLIAM GAIN, Gardener, Lynewood, Hants.

### VENN'S BLACK MUSCAT AND DUKE OF BUCCLEUCH GRAPES.

I SEE at page 496 one of your readers inquires about the first named of these Grapes, and from what I have seen of it I am quite of your opinion in thinking it will not keep so well as Lady Downe's or Alicante. When it was shown at South Kensington on the 8th of November last it was described as being very much "shrivelled." Now the first week in November is very early for any Grape with the slightest pretensions at being late to shrivel. About the middle of the same month I chanced to be visiting a friend of mine in the midland counties, who grows Grapes extensively and well. In one large house he had fine fruit of nearly every kind of Grape that is grown, and Venn's Black Muscat was the only one shrivelled and very badly so. It was remarked at the time that it corresponded here with those shown at Kensington, and fears were expressed that it would not prove a good keeper. No doubt some of your readers will have fruited it this season, and by this time they will be able to form an opinion of its keeping qualities, and perhaps "READER," as well as myself, would be very thankful to see some of your correspondents state their experience.

I am contemplating planting a vine shortly, and as I would like to introduce a few of the newer varieties of Grapes of known merit, would any of your readers recommend me to plant Duke of Buccleuch? By the time the Golden Champion was as old as the Duke we were pretty well informed of its merits or demerits, but of the Duke we have heard nothing, or I would not ask a place for this in your valuable columns.—AN ASPIRING AMATEUR.

### EARLY WRITERS ON ENGLISH GARDENING.

No. 24.

HUMPHRY REPTON.

HUMPHRY REPTON was born at Bury St. Edmund's, May 2nd, 1752. His father was Mr. John Repton, who for many years held the honourable and lucrative situation of Collector of Excise.

At a very early age Humphry was sent to the grammar school at Bury. He says, "I was too young to recollect much of those happy days, as they are always deemed by men, but of which children think differently, since the fear of the rod and the ferula, with the labour of the lesson and the task, are not less evils while they last than the fears of riper age or the anxieties of manhood. Perhaps the true difference between the life of a child and that of a man should be estimated by his power of enjoying pleasures rather than in his experience of evils."

From this school he was removed to the grammar school at Norwich, in which city his parents then resided, and thus



seven years passed in laying the foundation of classical knowledge; and he was rapidly rising to a high station amongst his schoolfellows, when, as he expresses it, "My father thought proper to put the stopper in my vial of classic literature, having determined to make me a rich rather than a learned man; perhaps wisely considering that if Solomon himself had not been the richest the world would scarcely give him credit for having been the wisest man." Large fortunes were at that time made by the exportation of the Norwich manufactures; and his father imagined, that by sending him abroad and directing his education in a new channel, he might in time rival those fortunate men who die possessed of £100,000. In the summer of 1764, therefore, his father and sister accompanied him from Harwich to Helvoetsluys, that the foundation of his future greatness might be laid by his learning Dutch in a school in Holland.

The school in which he was placed by his father was situated in the small village of Workum, and here he passed what would have been called a miserable twelvemonth by anyone of less buoyant spirits than his own; but he was one of those enviable beings who are so well described by Wordsworth as peculiarly—

"Blest with a kindly faculty to blunt  
The edge of adverse circumstances, and turn  
Into their contraries the petty plagues  
And hindrances with which they stand beset."

And his cheerful endurance was rewarded by a fortunate occurrence about this time, which made an entire change in his situation during the remainder of his stay in Holland.

With Mr. Zachary Hope of Rotterdam had been placed a sum sufficient to defray his school expenses; and a half-yearly payment had regularly been remitted by him to Workum, with some general inquiry as to the health and progress of the little Englishman. For this civility it was deemed necessary that the young gentleman should call and express his thanks. To most boys of thirteen this would have been an awful undertaking, but he possessed a naturally frank and open disposition, which, combined with the advantage of a strikingly handsome person, seldom failed to prepossess strangers in his favour. Perhaps these advantages were aided by the interesting situation of a boy thus thrown upon the kindness of strangers. From whatever cause it arose, however, this call of civility ended in an invitation to remain two days; and during that short time he became so great a favourite that it was declared "impossible to part with young Repton;" and thus for five months he was domesticated in Mr. Hope's family, a sharer in all the advantages of education with his only son, enjoying every pleasure and luxury which wealth could procure, and honoured by the friendship of other branches of that numerous and respectable name which, both at Amsterdam and Rotterdam, had established a kind of rank which vied with the proudest families of other countries.

For more than thirty years success beyond his hopes attended him in the profession of landscape gardening he had marked out for himself; and in the exercise of which he not only felt pleasure, but frequently had the power of promoting it in others. And to these blessings was added that of health, which had never known a day's interruption till the unfortunate night of January the 29th, 1811; when returning with his daughters from a ball given by Sir Thomas Lennard, his carriage was overturned, owing to an accumulation of snow in the road, he received an injury in the spine from which he never entirely recovered. For many weeks this accident confined him to his bed, deprived of all power of motion. In a situation so trying to one of his active disposition his mind still retained its energy, and his patient endurance of suffering and cheerfulness of spirits never deserted him for a moment. It was many months ere he was able to resume his usual pursuits; and there is little doubt that the loss of his accustomed exercise laid the foundation of that complaint which for the remaining years of his life occasioned him at times great agony, and which his physician pronounced to be angina pectoris. It was well known to himself (and he did not conceal it from those most dear to him), that the termination of this disease would be as sudden as it must be fatal; but the stroke was so long delayed that hope had almost raised a doubt in the minds of his friends as to the truth of that awful fate which he himself never forgot was hanging over him. On the morning of the 24th of March, 1818, he came down to breakfast, not more unwell than usual (the act of dressing had for some time been attended with a few moments of spasm in the chest), but he no sooner reached the breakfast room than he fell into the

arms of his servant, and expired without a groan. So instantaneous was his death, that before his son could hasten from the adjoining room his spirit had fled.

Perhaps there is no stronger proof of Mr. Repton's love for the beauties of nature than the wish he had latterly expressed, that his remains might be deposited in a "garden of Roses." To gratify this innocent fancy he himself selected the small



Fig. 80.—Humphry Repton

enclosure on the south side of the picturesque church of Aylsham in Norfolk. A simple Gothic monument records his name and age, followed by some lines written by himself—

"The tomb of Humphry Repton, who died March 24th, 1818.

"Not like the Egyptian tyrants—consecrate,  
Unmixt with others, shall my dust remain;  
But mouldering, blended, melting into earth,  
Mine shall give form and colour to the Rose;  
And while its vivid blossoms cheer mankind,  
Its perfume'd odour shall ascend to heaven."

For the above memoir we are indebted to the introduction to Mr. London's edition of Mr. Repton's works. His professional publications were "Sketches and Hints on Landscape Gardening," 1795; "Observations on the Theory and Practice of Landscape Gardening," 1803; "Inquiry into the Changes of Taste in Landscape Gardening," 1806; "Designs for the Pavilion at Brighton," 1808 (though these designs are said to have met the approbation of the Prince of Wales, and were, like the building afterwards erected by Nash, in a fancy oriental style, they were not adopted); and "Fragments on the Theory, &c., of Landscape Gardening," 1816, in which he was assisted by his eldest son.

#### MESSRS. JAMES VEITCH & SONS' NURSERIES, COOMBE WOOD, PUTNEY VALE, FULHAM.

"VEITCH'S" is a name familiar nearly to every gardener in Britain, and represents a business of almost world-wide reputation. The firm is, however, commonly thought of in connection with the rich collection of exotic plants at Chelsea,—the immense stock of Orchids, the choice "pitchers," and the almost bewildering miscellany of ornamental-foliaged and flowering plants more or less tender, more or less rare, and every one of them appearing as if it received special attention ministering to its health and cleanliness. But attractive, varied, and extensive as is Chelsea, it is but one section of the business of the "great firm."

My glance was a rapid one, extending over three nurseries during one of the dullest and shortest of days. Commencing at COOMBE WOOD I found not only a nursery of considerable extent well stocked and well furnished, but a nursery extremely

picturesque and possessing diversified features of natural beauty. It is less than twenty years ago since the late Mr. James Veitch, with that intuition for which he was remarkable, selected this site for this nursery. He had probably not only noted the purity of the air of the district and the altitude of the ground over the adjacent level, but had also, in all likelihood, observed the spontaneous growth of Holly in the hedge-rows. Conifers like a pure air, they are hardly grown on an elevation, and they become of the best constitution in a soil naturally suitable for them. This trio of advantages was found here. Mr. Veitch was also desirous of growing American plants largely, and the compost in which these plants best thrive is decayed vegetable matter. What position therefore would be more likely to afford this than the site of an old wood? A wood was therefore selected for the nursery, Coombe Wood. The jungle was penetrated and surveyed, and speedily the site was cleared of the trees and under-wood. The particular part chosen was a great natural hollow of some thirty acres in extent, the entire of which is now occupied with shrubs and Conifers, growing as healthily as could be desired.

The whole of the nursery, however, is not in this "exalted hollow." Their upper and level portion is bounded by the public road, and from which the passer-by cannot but pause to admire the towering Conifers within, which are very conspicuous and ornamental. The most striking view is that down the principal or centre avenue of Wellingtonias and Araucarias alternately planted.

The planting of these fine specimens was directed by the late Mr. Veitch and Dr. Hogg, and the growth of the trees in the short period of fourteen or fifteen years is most remarkable. This is not a miniature avenue, but is quite 20 yards wide and 150 yards long. The Wellingtonias are growing about 8 yards apart, and the ground in front of them next the walk has been so planted that the principal trees are seen in their fullest beauty. At regular and wide distances on both sides of the central walk are planted choice Conifers of moderate growth and variegated Hollies. The ground at the bases of these is carpeted with hardy Heaths, and interspersed amongst the shrubs are Yuccas. The front lines next the path are composed of *Abies Clanbrasiliana* and other very dwarf Conifers, forming dense close rows of 2 to 3 feet in height. This thin but attractive mode of planting does not in the least obstruct the view of the principal trees—the

Wellingtonias and Araucarias—which are in robust health, and range from 20 to 30 feet in height. The formation of this avenue and the planting of the foreground was well conceived and carried out. At every few yards there is a distinct Conifer or choice Holly to admire, and looking between and above them are the handsome specimens which form its most commanding feature. The Wellingtonias and many of the Araucarias are singularly perfect, and the latter are never

injured by frost.

Arriving at the end of the avenue the scene changes. The view is no longer restricted, but we look over and across the hollow forming the principal part of the nursery, and cannot fail to admire the picture below, where nature and art are effectively combined. On the opposite hill are the remains of Coombe Wood, the masses of timber trees forming an appropriate background to the varied and large groups of the different-coloured foliage of the evergreens below. On the right is the mansion of Mr. Hammersley, (with the late Mr. Veitch's Japanese garden in front. On the left the hills of Surrey are visible in hazy blue undulations. In the centre of the hollow is an irregular meandering stream, in which are growing hardy aquatic plants, the banks being fringed with Bamboos, and towering above even their lofty canes are bold clumps of Pampas Grass supporting hundreds of feathery plumes. In the lowest portion of the hollow the American plants are arranged. Beyond and around them are the shrubs, and up the slopes of the hill surrounding are the Conifers. This arrangement

has been primarily adopted as best suiting the growth of the respective families of shrubs, and at the same time it is the most pleasing; it is an admirable example of natural grouping.

The nursery is traversed by winding walks with graceful curves, and every few yards reveal something fresh to admire. Few if any straight lines appear, and even the "specimen walk" has a graceful sweep. Let us pass along these twisting paths and note somewhat of the nursery's contents. It must, however, be a note *en masse*, for particular enumeration of many things which are noteworthy is out of the question. The specimen borders are planted with the choicest specimens of deciduous shrubs and evergreens. Here are the Japanese Maples, so elegant from their distinct foliage and effective from their rich colours. For choice places in shrubberies young plants of these are extremely suitable, and their effect



Fig. 81.—*RETINOSPORA OBTUSA GRACILIS AUREA*.

is heightened when associated with the lighter foliage of the popular variegated Maples. Of the Japanese Maples *Acer polymorphum*—the varieties *A. p. dissectum*, *A. p. palmatifidum*, *A. p. roseum marginatum*, *A. p. atropurpureum*, and *A. p. sanguineum* are all noticeable for their rich red and crimson tints or their chastely divided Fern-like foliage. Fears have been entertained lest the Maples should not prove hardy; but they are certainly hardy in the exposure of Coombe, for I noticed one shrub-like tree particularly which must have endured the severity of many winters. Differing greatly from the Maples are the Japanese Evergreen Oaks, which are also totally distinct from others of the genus to which they belong. *Quercus bambusæfolium* is exceedingly distinct; its foliage is 3 or 4 inches long and less than an inch broad and of a cheerful light green colour, rendering it conspicuous at a distance. It is perfectly hardy, and is worthy of a place on lawns and in shrubberies. Widely dissimilar is *Q. Burgerii* in three varieties, with large smooth glossy foliage resembling that of *Magnolias* or *Aucubas* rather than of Oaks, and is very imposing. We find here also an evergreen Plum, *Prunus ilicifolia*, a novelty which is being watched with interest. We next pause at a low dense-growing shrub with small foliage—*Osmanthus myrtifolius*. The leaves are acutely cordate and pointed,  $1\frac{1}{2}$  inch in length and half an inch broad, dark green and glossy and very ornamental. We next come to another new shrub of taller growth—*Azara microphylla*, which was introduced by Messrs. Veitch from Valdivia. There is no doubt of this shrub being quite hardy; it is also a free grower and graceful. Its leaves resemble somewhat those of the *Cotoneaster microphylla*, and the sprays bear small orange-red berries. The shrub is of upright habit with slender drooping branches, and is worthy of a place in select collections. Yet another new fruit-bearing shrub, *Hymenanthera crassifolia*, is conspicuous in the nursery. It also has some resemblance to the *Cotoneaster*, being of dwarf habit, having small foliage, and is laden with berries, but they are white—yes, white, and pearly as those of the *Mistletoe* and of the same size. For mountain sides and rockwork this must be regarded as a very select shrub where it can be viewed from below, and its numerous and curious berries can be seen to advantage. A flowering shrub of great promise, *Olearia Haastii*, is also being established in large numbers. It was introduced from New Zealand, and is quite hardy. It is most attractive and is exceedingly floriferous, every shoot bearing a bold terminal head of white fragrant flowers. For the front rows of shrubberies, or even for pots for early spring flowering, this is a decided acquisition. *Grevillea rosmarinifolia* is also most elegant. Its narrow foliage is very chaste, and the sprays are laden with small rosy scarlet flowers for six months of the year.

Intermixed with the evergreens and flowering shrubs are many choice Conifers. Effective is Young's Golden Juniper, a bright columnar shrub of great merit. *Juniperus pyramidalis stricta* is also exceedingly chaste, the foliage being of a silvery hue, and very dense and attractive. It is worthy of being grown in pots for select purposes of decoration. *J. drupacea* is also distinct and handsome from its larger twiglets of a glaucous hue. *J. argentea* and many others of the family are also represented by many handsome specimens. *Cupressus Lawsoni variegata*, which originated here, and *C. Lawsonii gracilis glauca* are constant in their variegation and must not be lost sight of, neither must the close green variety *C. l. erecta viridis*. The Umbrella Pine, *Sciadopitys verticillata*, is represented by many healthy specimens; this Conifer is so distinct and handsome that it must find its way into all gardens sooner or later, and the sooner the better. There are *Piceas* also, two of which not so generally grown as they deserve to be, *P. bracteata* and *P. polita*, the former conspicuous from its bold dark green leaflets, and the latter from its handsome habit somewhat resembling yet perfectly distinct from *P. pin-sapo*, in being of a bright grass-green colour. *Picea* or *Abies polita* is a Japanese Conifer of great merit and should be planted where trees of this nature are valued. *Abies Veitchii* and *A. tsuga Hamburgana* are also Japanese introductions, and give promise of being distinct and valuable additions to this ornamental genus. There are also *Cryptomerias* and *Retinosporas* in this rich border, and the shrubs, &c., are relieved with many fine clumps of the stately and beautiful Grass *Eulalia japonica*. This is elegant and handsome, the stems growing 5 feet high, and furnished with gracefully arching leaves 2 to 3 feet long and an inch broad, every leaf being boldly and clearly striped with white on a bright green ground.

This plant is perfectly hardy, and may be planted with confidence in any garden or shrubbery.

But we must look further down the valley, and here we come upon larger numbers of smaller plants of many of the choice subjects above named, and many more which are reluctantly passed silently by. Here are beds of all the best of the *Retinosporas* which produce a fine effect from the different hues of their foliage. Few plants than these are more valuable for winter decoration in vases on terraces, or in beds. The accompanying figure of *Retinospora obtusa gracilis aurea* gives a characteristic representation of this family, and speaks for itself of their slender elegance. Still richer in its golden hue, but of somewhat more rigid habit, is *R. obtusa aurea*. So golden is this variety that groups of it may be seen a mile distant—even a specimen growing in a quarter of Golden Hollies was conspicuous. In its young state the plant is of rather loose habit, but it improves as it attains size, and is one of richest in colour of all Conifers. No gardens where Conifers are grown should be without this cheerful plant. *R. plumosa* and *plumosa aurea*; *R. filicoides*, truly fern-like and feathery, *R. filifera*, *R. ericoides*, *R. leptoclada*, *R. lycopodioides*, and *R. squarrosa*, the latter having a distinct steel-like tint, were the most striking amongst these elegant miniature Conifers. These in their small state and in conjunction with singularly dwarf plants of the variegated *Euonymuses* (which are here largely grown), such as *E. japonicus aureo-variegata*, *E. aureo-marginatus*, *E. latifolius albo-marginatus*, *E. radicans variegatus*, and also *Cryptomeria elegans* if planted closely in choice flower beds near to the windows of mansions, dividing the colours with green-foliaged evergreens, would render these beds beautiful throughout the winter months. Plants for this purpose need only to be a few inches in height, and beds thus planted (as seen here) resemble at a distance a garden of flowers.

We pass on through acres of Hollies in all the select variegated forms, producing a rich effect. They are in plants from a few inches high to perfect specimens—standards, pyramids, and globes. Why are not these handsome glossy shrubs extensively planted? Too often only a very few are seen in gardens, and these so distantly sprinkled that their effect is lost, whereas if planted in groups and clumps they could not fail to add greatly to the beauty of lawns and shrubberies. This is "Holly time," and the value of these evergreens is seen in thousands of churches, homes, and gardens; but not many finer collections can be seen than in the home of the Holly at Coombe Wood. We are now in the centre amongst the *Azaleas* and *Rhododendrons*. These are alike numerous and varied. *Azalea pontica* and *A. mollis* are grown by thousands in all the best varieties; and *Rhododendrons* are yet more numerous, and are remarkable for their health and prospective profusion of flowers. The soil grows them sturdily, not over-luxuriantly; and the smallest of dwarf plants and handsome standards are alike furnished with buds almost on every spray.

Such is a general outline of this enjoyable nursery, or rather a portion of it, for there are other separate divisions. For instance, the stooling ground, where shrubs are increased by layers; *Magnolias*—*M. conspicua*, *M. purpurea*, the beautiful *M. Lenné*, and others being here noticeable. There are enclosures for seedlings, where *Azaleas* and *Rhododendrons* are covering the ground thick as grass. There are enclosures for cuttings of deciduous trees, others for Ivy (a rich and varied collection), in which *Helix arborea elegantissima*—unrivalled for winter bedding—cannot be overlooked. There are beds of *Liliums* and *Spiræas*, a remarkable collection of *Clematises*, and thousands of *Ampelopsis Veitchii* in pots to meet the constant demand. There are also *Roses*—an avenue permanently planted, besides the disposable stock; also a large and well-arranged block of glass structures, in which Conifers in countless thousands are propagated, and *Roses* in pots are in surprising number. It is here too where the prize *Hyacinths* are grown with which the firm has won so many honours. The bulbs are now potted, and are placed in the open nursery in their cocoa-nut fibre covering; by-and-by they will be placed in the houses to perfect their noble spikes—such spikes which when once seen can never be forgotten. Coombe is a fine nursery and well managed, a credit alike to its owners and their skilful and courteous manager, Mr. Dartnall. The nursery is a little over a mile distant from Norbiton station. It can be reached also from the stations of Putney, Kingston, Surbiton, and Maldon.

PUTNEY VALE.—This nursery is midway between Coombe

and Fulham. Putney Vale must be dismissed in the fewest words possible. It is devoted almost entirely to Roses, for which it was chosen from the strong nature of the soil. Some idea of the extent of this branch of the business is gathered from the fact that sixty thousand standard Briars are being planted for next year's budding, special prices having been given for stocks which are specially good. The boundary slip around this nursery is planted with Planes, Limes, and weeping trees. There are also collections of Pæonies and other herbaceous plants, but the body of the nursery (10 acres) is devoted wholly to Roses.

FULHAM.—This is not far from Chelsea, and is the dépôt for fruit trees. Twenty acres of fruit trees, and evidently not one too many. There are trees of all forms—standards trained and untrained, pyramids, bushes, and cordons. There are many vacancies, for the demand has been great; but there are plenty left, the policy being to grow in numbers sufficient to always secure a supply. Strawberries are also grown here, every variety being widely separated to prevent the chance of intermixing. The nursery is sheltered with a belt of young Planes. The demand for this, the "tree of trees" for towns, is very great, and provision is made to meet it. There are sundry glass structures—narrow houses for Oranges, Figs, &c., and a noble orchard house erected by Dennis of Chelmsford—a spacious and light structure, which grows Peach trees in pots to perfection.

Only one other feature of this nursery remains to be noticed, but this an important one. A prominent department of the business of the firm is the seed trade. All great firms dealing in seeds do something more than sell them. They prove them—prove not only their germinating properties, but their truthfulness to name and the quality of their produce. It is so here. Everything sold is proved, a staff of men being specially set apart for the work. Every stock is kept separate, and its quality is determined. Adjacent to this nursery is the root ground, where forty thousand crowns of Seakale and the same number of Asparagus are grown and sold annually.

Such is a sketch of the outlying branches of Messrs. Veitch's business, a business every section of which is conducted by men of proved competency, acting under the personal supervision of the active proprietors.—VISITOR.

### LATE-HANGING GRAPES.

In my greenhouse I have several rods of Black Hamburg Grapes, one of White Frontignan, one of Chasselas Napoleon (so called), and two of Lady Downe's. All have borne good crops this year. The Black Hamburgs have kept better than in any preceding year (under a new gardener), and not a few bunches are still hanging in excellent condition. The Chasselas Napoleon has also kept until now; but many of the berries of Lady Downe's are shrivelled and more or less disfigured with a sort of dull green mould, not in the least like that found on the few berries of the Black Hamburgs which have been attacked. I am unable to account for this, and shall be glad of information in order that I may guard against the recurrence of the mischief. I will state a few facts which may possibly have a bearing on the matter.

Towards the end of September I observed tiny drops of moisture like dewdrops on some of the berries in the morning. On calling the gardener's attention to this moisture he said the drops were the result of cracks in the Grapes. In accordance with some remarks which appeared in your Journal about that time I suggested that he might have kept the house too close at night. He now says the drops were only on a few of the berries, whereas many of them are shrivelled and disfigured by the dirty-looking mould. In summer, as a few of the berries were spoilt by spot, the lights were limewashed. The lime continued to adhere to the glass to the end of autumn, and I think injuriously intercepted the sun's rays and retarded the due ripening of the berries. Cracking is usually, I believe, attributed to excess of moisture at the roots; but the state of the border (inside the house) suited the Black Hamburgs. My impression is that the remedy against the "spot" unduly retarded the ripening process; but I cannot explain the connection between this and the cracking and the shrivelled and disfigured berries.

The White Frontignan bore a good crop, and its leaves seemed healthy, but most of the stems "shanked" before the Grapes were ripe; the shanking, moreover, occurred at a somewhat earlier stage than in previous years. I purpose cutting the rod down and grafting it with some other white sort less

difficult to manage, a sort with more flavour than Foster's Seedling. I am in doubt whether to graft, insert an eye, or plant a young Vine, and what Vine to have. I can give artificial heat. I shall be glad if some of your Vine-growing correspondents would give me the benefit of their experience and advice.—S. M. L. CARIN, *The Close, Salisbury.*

### JASMINUM SAMBAC FLORE-PLENO.

MR. ABBEY'S notes on indoor early winter flowers were very acceptable to me, as my chief want and desire is to have plenty of indoor flowers to cut during November and December. Many of the plants mentioned which I have not in my possession I will have at once. One plant which he names, however, I am very familiar with, and that is the one which heads this note. Of all flowering stove plants it is certainly the most worthy I know, as it not only flowers in early winter, but in every month of the year. Some time ago I had only one plant of it, and I can hardly remember seeing it out of bloom; and what is of equal importance the flowers are of great value, for they are pure white in colour and as sweetly scented as any of the Gardenias. In form the blooms are very like some of the Bouvardias. When grown in pots the plant must be trained to a trellis, but where cut flowers are the object it should be planted out and allowed to run in all directions. I have grown it in nothing but peat and sand, but lately I have tried a little decayed manure and loam in the mixture while potting, and I am beginning to think this is the best kind of compost to grow it in.—AMATEUR.

### THE DECORATION OF CHURCHES.

It is of floral decoration that I am writing chiefly; but at the same time it might be well combined with a limited number of evergreens in pots placed on either side of the chancel, and the same may be done down the aisles and the transepts, and they may not be out of place nearly in the centre of the church, as it is here they will produce a good effect if ranging from 1½ to 3 or even 4 feet in height, and placed tastefully. This I think may do away with nailing, tying, and wiring wreaths of evergreens to the walls and pillars and other places, which looked most suitable as in the ancient practice; but now in the modern practice I think more care and thought should be taken as to where driving of nails and looping of evergreen wreaths so as to deface and hide the beautiful work of ancient and modern carvers.

I find most effective scarlet and white if mixed together with taste, so as to form crosses, circles, and triangles; but whatever the form may be they must be flat or nearly so, and of any size, according to taste. For instance, if there be one vase only, I find that a scarlet centre margined with white in a triangular or pyramid form, backed up with Cypress or Juniper, with a few fronds of Maiden-hair Fern (*Adiantum cuneatum*) mixed in with them, has a good effect. The flowers used might be, for the centre, scarlet Pelargoniums, margined with Empress of India Chrysanthemum or Christmas Rose (*Helleborus niger*); or the centre may be Bouvardia Hogarth, with margin of *B. Vreelandii*, which are more lasting. The same may be said of Ericas and Epacrises of their respective colours, and the white Camellias mixed with the scarlet Bouvardia Hogarth; or if only one colour is used take the white Camellia or Christmas Rose set in the form of a cross, backed up with the above if there is only one vase used. But if there are three vases in use take for the centre one of the above, placing the other two on either side, which may be put up so as to form a white cross, with the corners (or groundwork) scarlet, and a backing-up of Cypress or Juniper, with a few fronds of Maiden-hair Fern. These look very effective; but avoid using blues or purples.—W. ROWE, *Gardener, Manor House, Histon.*

### NOTES AND GLEANINGS.

FEW winter-flowering stove plants are more dazzling in colour, not even Poinsettias, than GESNERAS, especially *G. cinabarina* and *G. exoniensis*. The former is perhaps the most useful, seeing that its flowers expand in a lower temperature, and they are also more fiery in colour than those of *G. exoniensis*. The foliage of both is of great substance, and is handsome from its plush-like appearance. Both are worthy of extensive cultivation where a temperature of 60° can be maintained. For flowering in winter the tubers require to be potted in June.



— ONE of the brightest and hardiest of CHRISTMAS FLOWERING PLANTS is undoubtedly the bright yellow Jasmine, *Jasminum nudiflorum*. As a hardy wall plant flowering in midwinter it has no equal, and its sprays of flowers are extremely useful for cutting. When grown in pots plunged in the open air plants are produced which are valuable for associating with evergreens, and rendering attractive places where more choice and tender plants could not be entrusted. This bright winter-flowering Jasmine might with advantage be more largely grown in many gardens than is the case at present. Cuttings strike readily, and small flowering plants may be produced during one summer's growth. A convenient mode of increase is by striking the young shoots in heat after the manner of Verbenas. This winter-flowering Jasmine is suitable for covering walls and trellises, and also by judicious pruning it may be produced in a bush form of growth, and thus grown it imparts a cheerful effect to shrubberies and pleasure grounds.

— THE WEATHER IN LONDON on Saturday was such as to suggest that a white Christmas was imminent. For many hours the snow fell, the flakes at night being of extraordinary size. Mixed with the snow, however, was rain more or less heavy, which, with the temperature a few degrees above freezing point, prevented the snow from accumulating, and on Sunday morning it was only an inch deep. On Monday morning (Christmas) it had all gone, and the day was of the usual autumn character—exceedingly dull with showers occurring. The cold, but not severe frost, still continues, but with protection and a little extra firing garden crops and plants may be comparatively safe from injury. The change from mild to colder weather may be a trifle unpleasant, but cannot fail to be beneficial in retarding the swelling of the fruit buds, which in many places are in a dangerously forward state.

— MR. DICKSON of Arkleton states that MADRESFIELD COURT GRAPE has done exceedingly well with him this year, and he esteems it as one of the finest exhibition black Grapes that he is acquainted with. Mr. Dickson also speaks in high terms of Mr. Bell's new Grape, Clive House Seedling, which was recently awarded a first-class certificate by the Fruit Committee of the Royal Horticultural Society. He has inspected the vineries at Clive House, and noted the robust character of the new Vine and its splendid crop of superior Grapes.

— A CORRESPONDENT writing to us in reference to the WEATHER IN SCOTLAND observes that the recent change from warm close days to cold east winds, with snow and rain alternately, will be the means of checking vegetation, which is in an advanced state and not anguring well for future fruit crops in the district of Eskdale.

— THE SWEET BAY (*Laurus nobilis*) is one of the finest of evergreens for lawns in places where it flourishes and is not injured by frost. We recently noticed some very fine specimens in the garden of W. Stevens, Esq., Springfield, Lower Tulse Hill. These bushes are somewhat egg-shaped, are about 15 feet high and 40 feet in circumference. They are almost perfect in shape and very handsome, Mr. Hall paying as much attention to these shrubs as to Chrysanthemums, which he grows so well. Mr. Hall can also evidently train pyramid fruit trees as well as flowering plants. The double white Primulas we found excellently grown, as well as Ferns and stove plants, also Grapes. It is not unusual to find good "all-round gardening" in small gardens, and this is one of them.

— TREE-PLANTING IN TOWNS FOR SHADE.—The law of New York State is encouraging; it is as follows:—Any person liable to highway tax that shall transplant by the side of the public highway any forest shade trees or fruit trees of suitable size, shall be allowed by the overseers of highways, in abatement of his highway tax, one dollar for every four trees set out; but no row of Elms shall be placed nearer than 70 feet, no row of Maples or other forest trees nearer than 50 feet, except Locust trees, which may be set 30 feet apart; and no allowance as before mentioned shall be made unless such trees shall have been set out the year previous to the demand for said abatement of tax, and are living and well protected from animals at the time of such demand.

— At the last meeting of the CHEMICAL SOCIETY Professor A. H. Church read a paper "On Colein," the red-colouring matter existing in the leaves and stems of *Coleus Verschoffeltii*. Colein when pure is an amorphous substance of a brilliant crimson colour, unalterable by exposure to light or by the

action of dilute acids; alkalis, however, alter it rapidly. Its alcoholic solution when freshly prepared is of a bright red colour, but, in common with that of some other red-colouring matters, it rapidly fades until it becomes almost colourless. This is due to a combination of the colein with the alcohol, the red colour being immediately restored on the addition of a little acid.

— IN a manuscript history of England in the notes on 1660 is stated—"October. A great river cut out of the maine land in St. James's Parke, a very broad one."

— THE UNUSUAL SCARCITY OF HOLLY BERRIES has been a great disappointment to those who derive much pleasure from church and room decoration at Christmastide. It appears that the Holly blossoms could not withstand the frosts of spring any more than could the fruit blossoms. The Mistletoe fruited very freely from flowering occurring somewhat later and when the frosts had passed.

## DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

### KITCHEN GARDEN.

As we have not been able to do anything to the kitchen-garden quarters opportunity has been taken to clean and surface the walks with fresh gravel. This work can be done very well in wet weather, as the roller presses down the gravel quite as firmly as it does at any other time. Before placing any fresh gravel on the surface we had the walks forked over to the depth of a couple of inches. When this is done so much fine gravel is not required. Our kitchen-garden walks were well made ten years ago, and they have scarcely involved any expense since. They were of a good depth at the centre, in some cases 12 inches, gradually becoming shallower towards the sides. The soil at that part could not be removed more than an inch or two, as it was required for the Box edging; but to prevent worms from working through it into the walks some lime rubbish was placed over it and beaten down firmly with the back of a spade. At the deepest part a layer of brickbats was placed to drain away the water, and this it has done most effectually. In wet districts it would be necessary to have drain pipes to carry away the water, but these we have not found to be requisite. Over the brickbats came a layer of coarse gravel, this also being rammed in firmly, and lastly 2 or 3 inches of fine gravel, which was levelled carefully, the highest part being the centre; after repeated rolling the work was complete. These walks ought not to be used for wheeling barrows upon, or for conveying rubbish or produce from the kitchen-garden quarters. Borders which ought to be planted with fruit trees or the smaller kitchen-garden crops may run parallel with the walks, and at the back of the border alleys 2 feet wide will be found most convenient for wheeling upon. When it is necessary to pass from the alleys on to the walks neat scrapers should be fixed at convenient places, so that there may be no excuse for carrying soil on to the gravel. All draining operations may be carried out in wet weather. We would have the drains 4 feet deep, 3-inch drain tiles in the bottom, with 3 or 4 inches of rubble over them, and over the rubble turves with the grass side under, or, failing these, some long litter.

Garlic and Shallots may be planted when the weather is fine, and it is well to see that damage is not done to Broccoli from frost or wet; all plants showing their heads should be protected by bending a leaf or two over the centre. The early Peas have come strongly through the ground, and the carbolic dressing has effectually prevented the mice from eating the seed. We shall the first fine day draw a covering of soil over the rows.

It has been previously stated that heated pits are best adapted for forcing Asparagus, but many gardens are not furnished with such convenient structures, and those who are require them for other purposes. Good forced Asparagus is produced from dang beds, or from beds of stable manure and leaves in equal proportions, and when leaves cannot be had to mix with the manure we have found long tussocky grass, which we can spud out of marshy ground, an excellent substitute. This is mixed with the manure in the same proportion as the leaves. The whole ought to be thrown lightly in a heap for two weeks before using, and be turned over once in that time. If the bed after it is made up heats violently it is better to wait until it partly subsides before placing in the roots. Some turf cut and placed with the grass side down will also keep down the heat. Place the roots in thickly, and cover them with fine soil. All such work may be done in wet weather, also placing Rhubarb and Seakale to force in Mushroom houses or other structures.

### VINERIES.

Our early Vines have not yet started into growth, though the buds are prominent. A moist atmosphere is kept up, but the night temperature is not permitted to exceed 50°, and this is quite high enough until the growths have pushed an inch, when

it may be increased to 55°, and when the leaves are formed to 60°, and 65° a little further on. Unless the roots of Vines are forced by bottom heat they do not begin moving until the leaves are formed, and to force hard before this is a tax upon the energies of the Vines which, if persisted in, would ultimately ruin them. When it is seen that the growths are shooting vigorously the Vine will endure a very high temperature, but it is better that the minimum in the case of Muscats does not exceed 70°, and for Hamburgs 65°. The following varieties may be mentioned as requiring Muscat heat:—Gros Colman, Alicante, Lady Downe's, Gros Guillaume, Trebbiano, White Nice, Syrian, and True Tokay. In the Hamburg temperature Royal Ascot, Black Prince, West's St. Peter's, Royal Muscadine, Buckland Sweetwater, Golden Hamburgh, Foster's Seedling, Duchess of Buccleuch, Duke of Buccleuch, Golden Champion, and Dr. Hogg will succeed. Lady Downe's does well in the same temperature, although it is named in the list of those requiring more heat.

There is such a manifest control over the roots of Vines in pots that they may be forced more rapidly than those planted in the open border, and the roots of which have gone over the bounds allotted to them. It is also of importance sometimes to push the Vines on rapidly, in order to have the Grapes in by a certain time; and if the pot Vines suffer it does not matter much, as it is more profitable to grow a good crop the first season and to destroy the canes after the crop is gathered.

Late Grapes still hanging require daily attention, as it very much depends upon the care that is taken of them as to heating, ventilating, removing decaying berries and leaves, whether the fruit will keep long in a presentable condition. Another matter is the sweeping-out of the houses. In some cases this is in charge of a careless boy, and he will, by raising clouds of dust, in time cover the berries with it, and so render them unfit for the dessert table. It is well to keep every part of the house clean; but when sweeping is necessary it ought to be done gently, and not oftener than once a week.

#### PEACH HOUSE.

We alluded on December 7th to starting the house, and instructions were given as to watering, syringing, temperature, &c. Some may even have started the earliest house before that date. Peaches will not stand such a high temperature as Vines, not that the trees will not thrive, for they will grow rapidly, and the more so because the buds will drop to the extent of endangering the crop. Early in the season 55° for a night temperature is the safest, a little ventilation being left on at night. A very dry atmosphere is not the best at setting time; dry by day and moderately moist at night is the best. The flowers will not be likely to set well without a little help; they should either be brushed over once a day with a camel-hair pencil, or they may be fertilised by gently rapping the wires twice a day with a stout walking-stick, when the pollen will be distributed.

#### PLANT STOVE AND ORCHID HOUSES.

We have repeatedly urged the importance of destroying all insect pests at this season of the year, when they and the plants are in an inactive state. It is a good plan to fumigate the house once a fortnight from the beginning of January until the end of February—that is, if many of the plants have been infested with thrips. When Orchids and other tender stove plants are in growth they are not unlikely to be injured by the fumes of tobacco smoke, and even at this season of the year the operation must be performed with caution. We wash the leaves of any plants that are attacked by brown or white scale and mealy bug with rain water in which as much soft soap has been dissolved as the leaves will endure with impunity.

The roof of the stove must not be shaded with climbing plants; it is a great mistake to leave too much leafy growth between the plants on the stage and the light at any season, but especially during the winter. In the first place nothing can be more unsightly than a quantity of shoots trained one over the other. This should never be; we would as soon train the lateral growths of Vines one over the other as of flowering plants, for in neither case can success be attained. An Allamanda trained to the roof was cut back to within a few feet of the base of the rafters. A plant of Bougainvillea glabra was removed to the greenhouse some time ago. The roots have been kept dry since, but the leaves have not fallen to a very great extent. Clerodendron Thompsonii and C. Balfourii we shall always winter in a house where the temperature does not fall below 55° for the future. It is not safe to place the plants in the greenhouse, as we have lost them in that way in previous years.

Caladiums, although the soil is as dry as dust in the pots containing the tubers, are safer under the stage in the stove than anywhere else. There are some Amaryllises in flower at present which were placed in heat some time ago, but the flowers are very much inferior to what they ought to be.

In the plant stove nearly all the plants are better with the temperature as low as it is safe to have it for the next three weeks, and as the daylight increases the temperature may rise with it. We have removed Anthurium Scherzerianum to the

Cattleya house, where the temperature is more suitable than in the plant stove with 60° at night; from 50° to 55° suits this plant better during the winter months, and the spathes are brighter and of a more leathery texture with the lower temperature. Little need be said about Orchids. Keep the plants clean and at rest; any unnecessary excitement from heat or moisture is injurious to them. The East Indian house should range about 60°, Cattleya house 50° to 55°, and cool house 45° to 50°, rising 5° by day.—J. DOUGLAS.

### TRADE CATALOGUES RECEIVED.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—*List of Gladioli.*

François Lacharme, Quai de la Vitriolerie, Guillotière, Lyons, France.—*List of New and Choice Roses.*

A. M. C. Jongkindt Coninck, Tottenham Nurseries, Dedemsvaart, near Zwolle, Netherlands.—*Trade List of Fruit Trees, Roses, Perennials, Aquatic Plants, &c.*

### HORTICULTURAL EXHIBITIONS.

SECRETARIES will oblige us by informing us of the dates on which exhibitions are to be held.

CRYSTAL PALACE (Artificial Flowers and Fruit). March 17th. NEWCASTLE-UPON-TYNE. March 21st and 22nd. Messrs. J. H. French, Benwell House, and J. Taylor, Rye Hill, Hon. Secs.

GLASGOW. March 28th and May 28rd. Mr. F. G. Dougal, Sec.

LEEDS (Spring Show). April 2nd and 3rd. Mr. A. Walker, Neville St., School Close, Leeds, Hon. Sec.

WISBECH. June 28th. Mr. Charles Parker, Hon. Sec.

TONBRIDGE. July 18th. Mr. W. Blair, Sec.

ISLE OF THANET. August 30th. Mr. C. D. Smith, Hon. Sec.

### TO CORRESPONDENTS.

\* \* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (F. Cannon).—There are no separate works on the subjects you mention. Those which include them are Martyn's edition of "Miller's Gardener's Dictionary" and Loudon's "Encyclopedias." (A Reader).—We have no Stove Manual, but our "Indoor Gardening" treats of stove plants generally with other subjects. It may be had by post for 1s. 7½d.

FRAMES (J. E.).—The Acme frames are patent, and are to be had of Mr. B. Looker, Kingston-on-Thames, to whom your letter has been forwarded.

EVERGREENS FOR SEASIDE (Fyank).—The Tamarisk (*Tamarix gallica*) and the Japan Spindle Tree (*Eucynus japonica*) are hardy, and are grown abundantly along the south coast of England.

REMOVING CONSERVATORY (W. Booth).—Legally the conservatory could not be sold if attached to the freehold, and you have bought what previously belonged to you. The tenant, we think, cannot compel you to remove it, as he erected it.

FUNGUS (A. R., Bromley Common).—The name of your woody fungus from the Cherry tree is *Polyporus ignarius*. The species is common on Cherry, Plum, and other trees.

BEST FORM OF LAPSTONE KIDNEY (J. R.).—It is too much to ask us to say which is the best. Try as many sorts as you can and select. Fenn's Perfection is certainly very handsome. The following sorts have all been proved by the Royal Horticultural Society in their trial grounds to be forms of Lapstone—Yorkshire Hero, Haigh's Seedling, Headley's Nonpareil, Huntingdon Kidney, Pebble White, Rixton Pippin, Perfection, and Ashtop Fluke.

PLANTING LATERAL CORDONS ON FRUIT BORDER (C. J. D.).—As you intend to plant Strawberries between the cordons and walk, the distance between would be a matter of taste. If you plant but one row of Strawberries let them be 6 inches from the edge, and the cordons 2 feet. The cordons ought to be trained about a foot from the surface of the ground. Apples are better for such purposes than Pears. Of Apples the best are Early Margaret, Irish Peach, Kerry Pippin, Margil, Ribston Pippin, Cox's Orange Pippin, Mannington's Pearmain, Old Nonpareil, Keddestone Pippin, and Sturmer Pippin. The above are dessert sorts. Of kitchen Apples—Kewick Codlin, Hawthornden, Cellini, Bedfordshire Foundling, Dumelow's Seedling, Rymer, and Gooseberry Apple are suitable.

DESTROYING WIREWORMS (Henry Thomson).—Soot and lime may check the increase of these pests, but we have found both ineffectual in destroying them. The best remedy would be to burn the surface soil; but as yours is shallow burning would destroy its staple, and might otherwise not be convenient. Gas lime distributed over the surface at the rate of one peck to sixty square yards, and pointing in lightly, is mostly an effectual application.

HEATING SMALL FRAME (A. Macdonald).—Your question was answered in our number published December 7th.

LABOUR REQUIRED IN GARDEN (J. B.).—So much depends on the arrangements of a garden, and the requirements of its owners, that it is always difficult to judge with precision from particulars of extent merely. For the garden you describe we think seven men and two boys necessary—i.e., two

men and a boy for the kitchen garden, the same for the houses and frames two men for shrubbery and flower garden, and one man for the walks and drives. That is, of course, a rough apportionment of labour, the outdoor men especially being employed in any portion of the garden where the work at any time becomes pressing.

**RUSSIAN TRANSPARENT APPLE** (*W. Simmons & Co.*).—We will endeavour to procure the information you require.

**ORANGE "BLOSSOM"** (*A Reader*).—We presume your tree is an Orange (*Citrus aurantium*), which will succeed in a greenhouse, and should have a light and airy situation, and be copiously supplied with water during growth, but avoiding over-watering, allowing the soil to become dry before giving any, and then a thorough supply. In winter keep rather dry. Three parts turfy loam, with a part of old cow dung or leaf soil and sand, is a suitable compost. Provide efficient drainage.

**YEW HEDGE DECATING** (*Idem*).—The bottom of the Yew having been destroyed by the Laurel, and the Yew cut down, will put out shoots from the stem, the dead branches being cut away. It will be some years, however, before the young shoots will have grown so as to form a well-furnished hedge. Privet would form a hedge in a short time, but the Yew is much the best, though very much longer in forming.

**SEEDLING GERANIUMS** (*Idem*).—Plants from seed sown last July will flower during the coming summer. We should plant them out (or plunge the pots about an inch over the rim) in May in an open situation, and not very rich soil, for seedlings grow very much to leaf as compared with plants from cuttings. Lobelias will winter in a frame provided they are kept from frost; but we should keep them in the coolest part of the greenhouse, and near the glass. Saxifrage do well in gritty loam, moist but well drained. They are best grown on rockwork with full exposure, taking care to avoid over-dryness during hot weather.

**FUNGUS** (*Almer*).—Your *Fungus* is known as the "Jews-ear" (*Hirneola Auricula-Judæ*), usually found on the Elder and Elm.

**NAMES OF FRUITS** (*R. M. A.*).—*Apples*.—1, Pomeroy; 2, Gravenstein. *Pears*.—1, Quite rotten; 2, Beurré Rance. Others not identified. (*W. H.*).—Your Grape is the Black Morocco, which has been distributed under the name of Kempsey's Alicante. The bunch sent was remarkably well set, this variety being proverbially a shy setter.

## POULTRY, BEE, AND PIGEON CHRONICLE.

### LANGSHANS.

"H. J. B." writes for information about Langshans. He says they appear to be "a cross between the Cochins and Brahma," and requests our opinion on the matter. Honestly, we think they are nothing but cross-bred fowls, Black Cochins entering principally into their composition. We do not want to raise any discussion on the matter, and we are glad that such an uninteresting subject has hitherto been kept out of these pages. Our opinions are shared by the majority of fanciers, and we can well imagine how breeders and exhibitors of twenty or thirty years' standing laugh at those who uphold the true breeding and distinctive points of Langshans. Wonderful stories are told of them: week after week one of their admirers advertised that they were "allied to the wild Turkey;" we only wonder someone else did not say they were first cousins to Ostriches. Be they, however, mongrels or a distinct breed, one thing is certain, and that is, weedy Black Cochins have done duty for Langshans in their own classes, and Black Cochins breeders advertise and sell their refuse birds as "birds of the Langshan type," and as these are purchased as Langshans, whatever their origin may have been, such birds will soon be wanting in those peculiarities which Langshan admirers claim for their breed.

We believe there are some who assert that the Langshans made the Black Cochins, and not the opposite; but we know for a fact that Black Cochins have come over from Shanghai of the most perfect Cochins type, and that no Langshan blood was in those specimens. We were the means of putting into Mr. Darby's possession that wonderful Black hen which won all before her for two or three seasons, and which has never since been surpassed in merits, and there was about as much Langshan blood in her as there is in a Sparrow. Undoubtedly, in our opinion, what they are is a cross between a Black Cochins and some white-skinned plump fowl, and hence the white flesh and more abundant meat which their admirers claim for them as their distinctive points. We know how easily feathered legs and black colour are perpetuated, and so these birds breed true as far as they can breed true, being weedy-looking black-feathered Cochins. We can see no difference in external appearance between them and bad Cochins, and we looked at them very closely at the Palace, where we know one winning pen of so-called Langshans contained actual Cochins, and we are as certain that one or two of the Langshans would have won cards if entered among the Cochins. This being so, we fail to see any advantage in keeping up the farce as to the supposition of their being a new breed. Imported they may have been, and imported they still may be, but not in Great Britain only are breeds of poultry crossed; and until the admirers of this composition can bring forward more certain proofs of what they claim for them, we would recommend them to be silent on the subject.

Being cross-bred birds they may have properties which make them useful for the table and other domestic purposes; but to

maintain that they have no Cochins blood in them is as ridiculous as to try and make out their Turkey connection. One who can believe that can believe anything, and we can full well understand their being deceived. We are told that the Judge who awarded the prizes in the Langshan classes at the late Palace Show was ignorant of their points, and so made a mistake in his awards. We should have been curious to see to which pens their champions would have given the prizes, for there was hardly a pen but had some Cochins point more or less developed. Their place, undoubtedly, is in that class which we sometimes find in agricultural societies' schedules—viz., for "Any table variety of cross-bred fowl," and then the judge would be able to take meaty breasts and fleshy thighs into consideration, in which we hear this new variety so greatly excels. We expect very shortly to hear that as in Cochins, so Langshans are to be found of many colours. We look forward to the day for some reasons, as we have now some weedy Whites and Buffs, which gradually are turned into pasties; but to find a market for them at 20s. each would indeed be delightful, for as it is they are only worth table poultry prices.

At the last Bristol Show we saw in the Selling class for cocks a bird which was evidently a cross between an Asiatic and a Dorking. It was feather-legged, single-combed, white-fleshed, and of moderate size, and we could only pity the possessor who had invested 5s. for displaying such a mongrel. Later on in the day a very celebrated Cochins breeder and exhibitor came to us and said, "You must, of course, notice in 'our Journal' the new breed." We said, naturally, "What new breed?" "Is it possible," cried the Cochins breeder, "you have not seen the Silver-Grey Langshans? I am expecting representatives from Worthing and Bromley every minute to see this last new wonder, and to get them classes at Wolverhampton." This shows what Cochins men think, and this, too, from an exhibitor of fifteen years' standing.

This is all we have to say. Useful for culinary purposes Langshans may be, productive layers they possibly are, but mongrels—sad mongrels, they are beyond doubt.

We mean to enter into no controversy, and these pages are in future closed to a discussion on the subject. We leave that to our contemporaries, who also, however, seem to be weary of the matter. When the wild Turkey connection has been proved we will gladly print the family tree. In the meantime we recommend those who want a cross-bred fowl to try the first cross between a Brahma and a Dorking, and to leave the "Longshins" alone.—W.

### BEDALE SHOW OF POULTRY, &c.

The third annual Show was held at Bedale in the Drill Hall, on Tuesday, the 19th inst. The place was too small for the purpose, the entries being good; and the light, in consequence of the crowded state, was very defective, and yet it is due to the Society to say this is the only place at disposal for the purpose.

*Game* were a capital show, Brown Reds carrying the cup off, these being chickens, the pullet quite young, but grand in every particular, Brown Reds being second. In *Game* other than Reds the winners were Duckwings, and all very good in colour and stylish. *Dorkings* a grand class, the cup for the next section going to the first-prize old birds. *Cochins* poor, except the winners; and *Brahmas* a fair lot. In *Gold-spangled Hamburgs* the winners were two grand pens, but the Silvers were not equal to them. The best of this lot were left out, the pullet having undergone some smearing process that had stuck all its feathers together. The cockerel was a gem. *Gold* and *Silver-pencils* were but moderate, the cup going to *Gold-spangles*; and in the next section *Spanish* took the place of honour. In the *Polish* the prizes were awarded to *Goldens*; first old and second young. One pen of *Silvers* could not be judged; the cock having indulged in a bath it was impossible to judge of his crest qualities. In the *Variety* class first were *Black Hamburgs*, second *White Leghorns*, and third *Crève-Cœurs*. In *Game Bantams* first were very smart *Black Reds*, second *Piles*, and third *Brown Reds*, many others securing very high commendations. In the *Variety* class of *Bantams* first were *Silver Sebrights*, second and third *Blacks*. In the *Selling* class first were *Black Hamburgs*, second *Partridge Cochins*, and third *Rouen Ducks*. *Turkeys* and *Geese* were very large, and good in all particulars. *Ducks*.—*Aylesburys* were very good, and the two winning pens of high quality and well shown. *Rouens* good as regards the winners. The *Variety* class was a very good one; *Mandarins*, *Carolinas*, and *Black East Indians* were the winners.

*Pigeons* good for the amount offered. *Carriers*—first *Dun*, second and third *Black*. In *Pouters* first was a *Blue* hen in fine order, second *White*, and third *Black*. In *Jacobins* a good *Yellow* was placed first, with a *Red* second. *Tumblers* were a fair class; first and second were *Almonds*, and third *Kites*. *Fantails* were a fair class, and the winners *White*, but there was one grand *Blue*. In *Turbits* first was a little *Blue*, good in all particulars, although some preferred the highly-commended bird of that colour. Second was a capital *Red* hen. The *Selling* class was poor.

**Cage Birds.**—Of these there were some good specimens, particularly the first-prize Crested Norwich and the first in the Variety class, a Yellow Belgian of more than ordinary merit.

There was a fair entry of *Rabbits*, but as a rule all were poor except the winners. In Lops first was a Black-and-white doe, 22½ by 4½; second Fawn-and-white, 21½ by 4½; the third, 22½ by 4½, was in very bad condition. In the Variety class first was a Silver-Grey, second Silver-Cream, and third Himalayan.

**POULTRY.**—**GAME.**—*Black-breasted and other Reds.*—Cup and 1, C. Venables. 2, W. & H. Adams. 3, R. McDonic. *Any other variety.*—1, Holmes & Destner. 2, J. Robson. *vhc.* C. Venables. *DORKINGS.*—Cup and 1, T. P. Carver. 2, J. H. & A. Stretch. 3, R. L. Garnett. *vhc.* Lady Bolton. **BANTAMS.**—*Game.*—1, T. H. & A. Stretch. 2, and 3, J. Robson. *vhc.* W. Atkinson. *H. M. McDonic, Smith and Atty, Mrs. C. Porter, W. & H. Adams. Any variety except Game.*—1, T. P. Carver. 2, W. & H. Adams. 3, F. T. Crowther. *vhc.* R. H. Ashton, Holmes and Destner. **BARNDOR FOWLS.**—*Crossbred.*—1, J. Braithwaite. 2, Dr. Umpleby. **SELLING CLASS.—1, R. L. Garnett. 2, J. Cass. 3, T. Scoby. *vhc.* R. McDonic, Holmes & Destner. *TURKEYS.*—1, Mrs. Kirk. 2, G. Mangles. 3, W. H. Garforth. *vhc.* Mrs. W. Bird. **GESE.**—1, G. Pounder. 2, F. J. Crowther. 3, and 4, J. Robson. *vhc.* E. Gibson. *vhc.* J. Cass. **ROUEN.—1, F. G. Rawson. 2, Mrs. Crossley. 3, W. H. Garforth. *Any other variety.*—1 and 2, J. Johnson. 3, R. Wiles, jun. *vhc.* Rev. A. Webb. **PIGEONS.**—**CARRIERS.**—1, W. & H. Adams. 2, G. Sadler. 3, Joy & Robinson. **PORTERS.—1, Joy & Robinson. 2, T. Gallon. 3, G. Sadler. **JACOBIANS.—1, G. Alderson. 2, J. Gardner. **TUMBLERS.—1, 2, and 3, T. Horsman, jun. **FAN TAILS.**—1 and 2, Joy & Robinson. **TRUMPETERS.—1 and 2, Joy & Robinson. **VARIOUS.—1, G. Alderson. 2, T. S. Stephenson. **ANY OTHER VARIETY.—Cup and 1, J. Thresh. 2, G. Alderson. Joy & Robinson. *vhc.* E. Mawson. **SELLING CLASS.—1, W. Douthwaite. 2, R. Ord.******************

**CANARIES.**—**TICKED AND EVEN-MARKED.**—1, C. Burton. 2, W. J. Hampton. **NORWICH.**—1, J. Young. 2, W. & C. Burniston. **CRESTED.**—1 and 2, W. J. Hampton. 3, C. Johnson. **CINNAMON.**—1, C. Burton. 2, W. & C. Burniston. **YORKSHIRE.**—1, Johnston & Harston. 2, C. Johnson. **LIZARDS.**—1, T. Cleminson. 2, W. J. C. Burniston. 3, W. Addison. **ANY OTHER VARIETY.**—1, W. Addison. 2, J. Young. 3, C. Johnson. **BIRCH BIRDS.**—1, E. Powell. 2, J. Day. **SELLING CLASS.**—1, C. Burton. 2, T. Cleminson.

**RABBITS.**—**LOP-EAR.**—1, E. Pepper. 2, R. Murgatroyd. 3, M. Barradale. **ANY OTHER VARIETY.**—1 and 3, H. E. Gilbert. 2, E. Pepper.

**JUDGES.**—*Poultry and Rabbits:* Mr. Enoch Hutton. *Pigeons:* Mr. W. Cannan.

## GUILDFORD POULTRY SHOW.

This Show, in connection with the Surrey Agricultural Society's Show, was held on the 11th and 12th inst. in the Green Market, Guildford. The Show is not confined to the county of Surrey, though the majority of exhibitors are local. The entries fell short of some former years, but we thought the quality improved. We heard that several exhibitors had their entries refused as being late, which is a loss to a show of this kind, and we recommend the Committee not to close their entry book so long beforehand another year.

**Dorkings** were, as usual in this neighbourhood, good. The cup for the best pen went to a grand pair of Dark chickens, first in their class. They might well be in this position, as the cockerel is the Palace cup bird, also first at Bristol, and he was shown with a pullet worthy of him. The second-prize pen contained a good cockerel, but a pullet dark in feet. The third-prize cockerel was a fine dark bird with dark feet again. In the next class for adults a square old-fashioned pair of Rose-combed birds were first. We fear this breed is nearly extinct. Second were large Silver-Greys. Third Darks of large frame with white feet, but the cock out of condition. Whites were not so numerous as formerly. First a fine well-shaped pair, well-known winners; second very fair, third moderate. We were very sorry to see a great falling-off in the number of Cuckoos from former years. We hope this useful breed is not ceasing to be the speciality of this neighbourhood. In lieu of fifteen or twenty pens three were shown. The pullets in the first and second pens were good dark birds; the second cockerel was the largest, but too light in colour; third were single-combed birds. *Cochins* were all shown in one class. First were Partridge; a fine hen with an under-feathered cockerel. Second middling Whites; third a well-shaped Buff cock mated with a small pullet. Pen 27 (Roumieu) contained a fine Buff cockerel. **Dark Brahmas.**—First were chickens, the cockerel remarkable for beautiful orange legs (we think we saw him at the Palace), the pullet well pencilled. Second the best hen in the class, with a cock too brown on wing. Third a good pair; the hen, however, very brown. Light Brahmas were as a class good. First a very pretty cock, but hen with scarcely any leg-feathering, though capital neck hackle. Second and third were fair birds, but creamy in colour. *Spanish* were poor; the first pair alone deserved notice. *Game.*—First were Brown Reds, the cock a beauty, the hen rather too high in comb; the cup for the best pen other than Dorkings went to them. The Judge first awarded it to the first Golden-pencilled Hamburgs, but as their owner (Mr. Cresswell) was the donor of this cup it was passed on to the next best pen. Second, fair Black Reds. *French.*—One pair of Houdans alone put in an appearance. **Hamburgs.**—The Golden-pencils in this class were capital, and carried all before them. In the first pen the cockerel was very rich in colour, uniform throughout. Second a good pair, but

cockerel more bronzy in tail than the first. There was a large entry of *Game Bantams*. First pretty Piles, second Black Reds, the cockerel badly dubbed. Various pretty birds in this class were thrown out from being badly matched in legs. The first Black Bantams in the Any other variety class were capital; a special prize was awarded to the cockerel. In *Ducks* Rouens carried off all the prizes in the first class, Black East Indians in the other. *Geese* were fine. *Turkeys* magnificent.

The *Pigeon* class was a most interesting feature in the Show; seven prizes brought thirty entries. On the whole far better birds than we ever saw at such a show. First were grand Black Turbits; second and third Archangels, worthy to be in Bingley Hall; fourth Yellow Turbits. Good Blue Owls and fair Black Carriers came in afterwards.

The Judge was the Rev. R. S. S. Woodgate, and his awards seemed to give general satisfaction. In spite of bad weather the visitors were numerous on Tuesday morning, many farmers being among the company. Such shows do much good, and we wish them success. We published the prize list last week.

## DUNSE SHOW OF POULTRY, &c.

The first Show was held at Dunse in the Corn Exchange on the 14th inst., and considering that it had not been well advertised the entries were good, and we have no doubt but that this will become an annual event on an extensive scale. The pens of the Edinburgh Gymnasium were used, and were very good and well placed. The birds were judged catalogue in hand.

First on the list were *Dorkings*, of which there were some good birds, the first Dark Greys especially. *Cochins* a bad lot; but the winning *Brahmas* made amends. *Game* had except the first Black Reds. In *Spanish* were some good birds; the first-prize cock very deep and smooth in face. *Hamburgs* were poor with the exception of two pens; and *Bantams*, *Game*, very bad; the variety Bantams one of the best classes in the Show, Blacks winning all the prizes. *Ducks* were good in entries, the Aylesburys being the best class of poultry in the Show, while in Rouens there were but two good pens, and in the Variety class Black East Indians and White Calls won. *Turkeys* and *Geese* very good indeed.

*Pigeons* had eight classes, and were better than the poultry. In Tumblers a very good Short-faced pair of Blue Balts were first and Red Mottles second, one pair of Almonds being too pale, and in another case the hen had bad eyes. Fantails bad; and only the first pen of Pouters of any value, but these were good stylish Blues. Jacobins a good class; first Red, second Yellow, and third Black. Nuns good; and in Owls were some capital headed birds, especially the first-prize Blue cock. Turbits a very good class, all being noticed; first Yellow, second Yellow, and third Blues. In the Variety class first were White African Owls, second Fire Pigeons, and third Blue Dragons.

The prize list we published last week.

## THE BIRMINGHAM COLUMBIAN SOCIETY'S SHOW.

The members of this Society held a special Show in the long dining-room of the White Horse Hotel, Congreve Street, in order to provide an additional attraction for friends and visitors to Bingley Hall. There was a very large attendance, which included a number of the élite of the Pigeon fancy, who thoroughly enjoyed the treat provided for them, and so much so that the general expression was heard on every side, "I never spent a more enjoyable evening, or saw a finer show of its kind." Down the centre of the room, on a long table, were arranged in two rows twenty-three large cages 3 feet long by 2 or 2½ feet wide, specially made for the occasion by one of the members, Mr. J. M. Bott. It folds up into a large flat box about 2 inches deep, which forms the bottom of the cage when in use. A long row of gas jets (gratuitously provided by Mr. Grice, another member) extended down the centre of the room above the cages, and furnished a brilliant light in every cage. Perhaps the greatest attraction of the Show was the grand display of Carriers, the general quality of which was unexceptionable. To criticise the merits of the various collections of this variety would be a task both difficult and invidious, even if we had space to do it; and we will therefore only say that they were shown by Mr. T. Hallam, the splendid condition of whose six old and six young Blacks was specially admired; Messrs. Allsop, J. Siddons, G. Jordin, C. Cook, S. Lingard, Key, and Cartwright. Antwerps of all the colours were shown by Messrs. H. Wright, Grice, Forrest, Mapplebeck, and Key. Mr. H. Pratt showed four Pouters up to his well-known quality; Mr. Gough, a pen of beautiful Satinets; Mr. Ludlow, one cage of the charming foreign varieties which he has made so famous, as well as a cage of a variety he calls "Red Indians," and which are something after the style of Red Dragons, but of a brilliant colour. Mr. Bott and Mr. W. B. Mapplebeck showed collections of the several varieties of flying Tumblers, some of them remarkably



handsome; Mr. Royds, a cage of admirable Jacobins containing two Reds, two Blacks, two Yellows, and two Splashes, the latter particularly striking; Mr. Booth, a pretty cage of foreign Owls and Shortfaces; and last, but by no means least except in size, we must mention a dozen Almond Tumblers shown by Mr. T. Hallam, of the quality for which he is so well known as a breeder, and which could not have failed to please the most fastidious either as regards head properties or colour. Amongst them was the charming little Palace cup cock, which is a study for an Almond breeder. The general arrangements of the Show reflected the greatest credit on the courteous and indefatigable Secretary, Mr. H. Allsop.

## THE MANAGEMENT OF THE LOP-EARED RABBIT.

DURING the last few years foreign breeds of Rabbits have greatly improved their position in the estimation of Rabbit fanciers; and whereas a few years since no other breed than the Lop was kept for showing, now a great deal of attention is paid to the smaller but no less interesting varieties. Lops, however, still hold their position as the first among fancy Rabbits, and hence I have selected them for the first of a series of papers on Rabbit breeding and rearing.

There are several points relating to the keeping of Lop-eared Rabbits that require attention, and several of them have caused much unnecessary controversy. The ears have always been considered one of the most important features in the breed, and although the other points are now receiving more attention and are more highly valued, it is not because the ears are to be neglected. Twenty-two inches from tip to tip of ear measured across the top of the head used to be considered a great length, but considerable improvement has been made lately in this respect; and although 22 is still considerably over the average, 22½, and even 23½ are sometimes attained. Twenty-four inches has only been touched upon two occasions, and then only by London judges.

To attain these enormous lengths recourse has to be had to heat, and it is the proper regulation of this that is one of the chief points to be considered in management. If the temperature be too high the animal's health will considerably suffer, whereas if it be too low the ears will not be long enough. Some writers advocate 80° or 90°, but 60° or 70° at the most is quite high enough for health. Ear-stretching used at one time to be resorted to to increase the length of ears, but it really tends to shorten them by breaking the delicate fibres of which those organs are composed. It is not so much practised now as formerly, but at one time it was an almost prevalent practice.

In breeding the first thing to be done is to select the parent stock. Do not let the desire to have great length of ear overcome the necessity of having health and strength. Select a strong doe with ears not under 20, or, if possible, say 21 or 22 inches. Let the buck's ears be not less than 22, and as much more as possible, and above all be careful that both parents are strong and in good condition. If you are breeding for colour see whether the Rabbits have been produced by parents of the same colour as themselves, and if not whether there were any in the litter like either parent. This is necessary, because in some strains Rabbits do not all keep to colour. If you want black-and-white a black doe is best, and a black-and-white buck. As a general rule, it is best to breed for broken colours with self-colours, or else the offspring will not be heavy enough in markings.

Having selected your parent stock and paired them, the next question will be the doe's hutch in which she is to kindle. This should be constructed with the ordinary two compartments, and on the double-floor principle. Let it be fairly roomy, but not over-large—say 3 feet or 3 feet 6 inches by about 2 feet, and the sleeping room something under a foot. Between the real and artificial floors there should be a space of an inch or more, and the former is best constructed of stone, slate, or metal. This space I think is best left open, but I have seen it advocated to fill it up with sawdust, so that the urine could percolate into it and throw off a warm vapour. I should hardly think this would be very healthy, and if it be done for ventilation holes should be bored through the top of the hutch so that the foul air can escape at once. This hutch should be placed in an outhouse or shed so constructed as to perfectly exclude all draughts, but yet to afford sufficient ventilation. The floor should be covered with asphalt or cement, as the wet will soak into any other substance and cause an unhealthy vapour to be constantly rising. If there is not a floor of this description the next best is a layer of sand 2 or 3 inches deep, which can be renewed three or four times a-year. Sand or gravel is decidedly better than soil, but both are more or less unhealthy. The roof should be moderately high.

As the doe's time of kindling draws nigh, that is towards the end of the fourth week, liberally supply her with fine straw and sweet hay, and she will soon make her nest of it. You may rely upon her being with young if she tears the hay up and carries it

about in her mouth. Having made a nest of the straw and hay she will line it with fur from her own breast, sometimes in her zeal laying herself almost bare. At the time of kindling the doe is often afflicted with excessive thirst, to appease which she will sometimes eat one or more of her young. A saucer of milk or water will alleviate this.

Arrange your breeding so that you will have a nurse doe kindling at about the same time. When your Lop doe has kindled about a couple of days seize an opportunity when she is feeding to have a look at the young. Even at that age you will be able to tell plainly enough which are the best marked. Select two or three of these and leave them with the doe. The remainder remove, and substitute for your nurse doe's litter. Great care should be used over this operation, as if the doe note the change she will unmercifully attack the new comers. Shut her from the young a few hours before changing them, and feed her with very moist food so as to give her a great flow of milk. Do not admit her into the dark room until the fresh young ones have been there some little time, so that they will have settled down. Then admit her, and after the young have once drawn her milk there will be no more difficulty, and she will tend them the same as her own. Keep the front of the hutch covered up the first week or two so as to keep the young Rabbits warm. Supply both mothers liberally with good nourishing food, not omitting to give them plenty of a succulent nature. If you want length of ear and good size for show purposes, the longer you have the young with the doe the better, so long as she does not fight them. When this occurs often, if she be put to the buck she will be quite peaceable again. As soon as the young begin to feed give them soft flesh-forming food, taking care not to derange the bowels, as this will keep them back more than anything. Keep them with their mother till at least two months old, and as near three as you can. Even if you exceed three it will only tend to increase their size. Remember that at this time their ears are capable of tremendous growth, and your work is to increase that growth as much as you can. Sometimes both ears do not fall evenly, one being inclined to be upright or to fall over the face. The course in that case is as follows:—Put the Rabbit in question on your knees and gently work the ears, *not pull them*, till they assume the correct position. Let this be repeated daily as long as necessary. There need be nothing cruel in the action. Pulling will do more harm than good, and if only gently worked the Rabbit scarcely notices it, and *frequently will continue eating during the operation*. Feed liberally with crushed corn, and vary the kind as often as you like, for just as you prefer a change from beef to mutton, and back again, so does bunny like a change in his diet occasionally. Wheat, oats, and barley form three very good flesh and size-forming foods. For a treat, and to put flesh upon their bones, give an occasional—say once a-week or fortnight—mess of split peas. Let these be first scalded in hot water and left to soak several hours; then let the water be poured off, and a very little milk be added. An occasional feed of brewers' grains is also good, but neither of these two last should be given too often.

Supply liberally with green stuff. Take care that no poison gets among it, as several herbs are noxious to the Rabbit. Lettuce, cabbage, carrot tops, soft and tender grass, young corn, tares, all kinds of clover, trifolium, and lucerne, endive, parsley, (beware of the hemlock, which has a round and spotted leaf, and is poisonous); sow thistles, young grass, and several other herbs may with safety be given. The amount need not be very limited, provided always that it is gathered dry, and left a little in the sun or warmth before being given. No green stuff must ever be given wet, and if it be gathered wet and then dried, the process will take out nearly all the goodness. Supply good hay *ad libitum*. This is one of the cheapest and best foods that you can possibly give to Rabbits, although when it is used in abundance there must also be a good supply of succulent food, or there will be a tendency to constipation. Roots are very good. Swede and all kind of turnips and carrots may be given with great advantage.

Lop Rabbits should be kindled in the spring or early summer, so that less artificial heat will be required. If, however, you have late litters be sure you keep your temperature uniform in the winter, and supply with warm food. Bran mash is good when given warm, but is not very strengthening. If the addition of a little oat or barley meal be made it will improve it greatly, and make it wholesome, nourishing, and at the same time palatable.

It should be hardly necessary to speak of the importance of cleanliness in breeding. The effects of neglecting this all-important duty are sometimes seen at once, the young dying off rapidly; but even if this be not so, the effect will be there ready to show itself when opportunity shall occur either in the form of disease or in stunted growth. The necessity of keeping air that is regulated to 60° pure, should be apparent to all. If the very necessary precaution be neglected the air will assume a fetid and noxious smell that will make it horrible to enter the rabbitry. The hutches should be cleaned out once a day, and

scoured once a week or so. The refuse should be carried out of the place at once, and not allowed to accumulate. It is best to let the wet run from the hutch into a bucket or into a drain. If the former plan be adopted, empty the bucket daily or oftener, and keep a little disinfectant in it; and if the latter, swill a bucketful of water down occasionally. In either case keep plenty of disinfectants about the hutch, and a little charcoal suspended from the roof with string will often lessen the smell. If these precautions be attended to the rabbitry should smell sweet and will be healthy.

I will not leave this subject without considering the question of a stove for heating. If in a town, or any place where gas is cheap, I can recommend nothing better than a jet of this kept burning constantly. This will be quite sufficient to keep up the temperature if the room be dry and snug. Another very good stove is one constructed to burn paraffin. This will be found both cheap and effective. If coals are burnt, a common open stove will not do, because it will be impossible to keep it at a uniform temperature. A closed stove will fulfil its work very fairly, but hardly so well as paraffin or gas.

This is the treatment recommended when young Rabbits are being reared for showing. When reared for breeding, however, I should advise the total abolition of all the heat, and if bred in the summer the more they are kept out of doors the stronger and hardier mothers they will make. If bred out of doors care should be taken to construct the hutch so that there cannot be the slightest opportunity for draught, and the front should not be made so open as is the case in hutches of an ordinary nature.

In purchasing Rabbits for breeding it is just as well to note which way they have been reared. Bear in mind that a 20-inch outdoor-bred doe is far better for your purpose than a 21-inch indoor-bred one. The latter are often very poor at breeding. Also to observe how many were reared with it, and to select from those litters that were few in number, as in that case you will be more certain of hardness and strength.—GETA.

## HIVES.

PERHAPS no one is better able to defend himself upon anything he has said than Mr. Pettigrew, who has so lately advocated the use of the improved cottager's straw skep by the poor labouring man, or those who can spend comparatively little time with their bees. Many of your readers will ever feel deeply indebted to that gentleman for his plain systematic teaching on the management of bees in large straw skeps—a kind of hive many can have for the making, with supers, hives, and all complete. And it is the labouring cottager who is so deeply interested in this question of bee-keeping; therefore hundreds there must be who can hope for nothing else, and perhaps need nothing better, all things considered. There may be many a splendid "little move" in bee management to produce such grand results as one witnessed at the Alexandra Palace this season, but even those in favour of Stewarton or bar-frame hives can hardly make it necessary or desirable to write down the hive at work in the hands of hundreds or thousands who cannot appear at a London palace.

In endeavouring to do something of the sort, your correspondent "A RENFREWSHIRE BEE-KEEPER," in your issue of November 30th, tells a strange story, no doubt quite true; but if all kinds of hives were to be judged in like manner, what one is there which may not be condemned as useless? Your correspondent says, "On stand No. 10 stood a swarm of the preceding year hived in two 7-inch Stewarton boxes, and side by side on No. 11 a swarm of the same year located in a roomy straw skep, both possessing queens of 1874, each having an overflowing population." After bestowing care, of course both equal, to obtain the greatest amount of super honey from both, the result was—No. 10, Stewarton, gross weight (four octagon supers) 68 lbs.; No. 11, straw skep, one Abingdon glass not sealed out, 2½ gross; large straw skep, with its 8-inch eke starving. The Stewarton no doubt was crammed completely, although we are not told so.

Now I venture to ask your correspondent a plain question. Does he, as an intelligent bee-keeper, believe that the great difference in these results is due to the kind of hive used? While the business of No. 10 was going on, what could the "overflowing population" of No. 11 have been doing? And yet they did not swarm, so they lost no time in that way. Perhaps your correspondent will kindly inform us how they lost so much time.

The season of 1875 was so bad here that bees in any kind of hive in the months of June, July, and August were in a starving state, and almost depopulated by wind and wet. In the autumn I united as much as possible, and fed vigorously, taking care of all good hives of comb for the following season. Most of us know something of the difficulties of last summer, autumn, winter, and spring, but no sooner did June appear than the bees went to work with a will truly admirable. On June 18th two first swarms were hived into 18-inch straw skeps full of good combs, and on the 23rd two others were hived into skeps also full of clean healthy combs, and perhaps something larger. It was a sight not to be forgotten to watch the going in and

out of these thousands of busy labourers in hives so liberally offered with roomy alighting boards and entrances, 4½ inches wide and 1 inch deep. They increased in weight so rapidly that I was induced to weigh one, and found that in thirteen days it reached 69 lbs. gross. One stock, which swarmed June 23rd, threw off a cast ten days after, and twenty-three days after the first issued I turned out the old stock into a good hive of comb; the bees went to work the next day as if nothing had happened. The old hive and contents weighed 54 lbs., and in August the first swarm, hive and contents, 85 lbs.; the turnout, ditto again, 61 lbs.; cast 22 lbs. (for some reason this did not do well); total 222 lbs. gross; and I believe many of the bees went back. The three stocks of bees sugar-fed are now in splendid condition.

In August I drove out the bees from five straw skeps into others quite empty and sugar-fed, uniting bees from cottagers' condemned stocks when I could, as so often advocated by Mr. Pettigrew, to keep up strength. The gross weights of these hives and their straw supers were as follows:—

No. 1	hive, 64 lbs. ....	super 16 lbs. ....	80 lbs.
" 2	" 70 lbs. ....	" 25 lbs. ....	95 lbs.
" 3	" 80 lbs. ....	" 21 lbs. ....	101 lbs.
" 4	" 74 lbs. ....	" 11 lbs. ....	85 lbs.
" 5	" 85 lbs. ....	.....	85 lbs.
373 lbs.			73 lbs.
			446 lbs.

These weights (not much to some people perhaps) are sufficient to show that the old straw skep is not the despicable thing to be avoided as your correspondent would have us believe, for it is worth remarking that nothing was done to obtain these results which the poor labourer could not do who leaves his home at five o'clock in the morning, with instructions to his wife that if such a swarm should come off to-day put it into such a hive. On his return at 6 p.m. he is delighted that it did come off and is all right.

"A RENFREWSHIRE BEE-KEEPER" will do us good service if he will conduct fair trials of different kinds of hives, and show the one which comes within the reach of poor people, and can be managed by either man or wife as occasion requires, and which will enable him to obtain super as well as first-class run honey in greater abundance than can be done by the use of the 18-inch straw skep as advised and worked by Mr. Pettigrew.—W. J. C.

## INTRODUCING QUEENS—TWO SOVEREIGNS.

YOUR valued contributor "B. & W." recently narrated an interesting case as to how he had introduced an Italian queen twelve hours after the removal of the black queen, by means of a broken wineglass and piece of perforated zinc. She was well received by the bees at first, but subsequently the disturbed state of the hive caused him to return their own black queen; yet notwithstanding, young yellow-jackets have since made their appearance, and your correspondent thinks the phenomenon may possibly be accounted for by a joint reign.

First as to the mode of introduction. In the days of my novitiate I found many queens dead on the zinc from the coldness of the night air causing the workers to fall back towards their centre. Queens ought to be caged between the combs to be safe, and for a much longer period than twelve hours. The disturbed state of the stock arose from the Italian queen being then encased, and on having a choice the workers simply preferred the Italian, which alone reigns.

I will illustrate this by a parallel and more striking case from my own apiary last year, and singularly enough the heroine of my tale was the joint occupant of a throne. The ragged wings of my imported Italian queen bespoke her having seen service, but she was still amazingly prolific. The workers persistently built royal cells, which were as regularly excised. Her majesty seemed to have made up her mind to abdicate the throne, as she exhibited not the slightest interest or paid any attention to the royal cells building (a most unusual circumstance), when suddenly a princess burst upon the scene hatched in some odd cranny; she treated her with sovereign contempt, and for many weeks this state of matters continued. On my return after a short absence I was sorry to find my old valued queen had disappeared, most probably expelled, but regret much I had missed a sight of her departure.

Shortly afterwards I deposited the young queen of the observatory to make room for an imported successor, and, not wishing to destroy her, removed an older queen from one of my Stewarton stocks, and after she was missed caged the young queen from the observatory therein. On the third day after I excised several royal cells, and so soon as the hive had quieted down I liberated her; but shortly, from the disturbed state of the workers, judged she was encased, raised the frames, and found it even so. I again caged her for a similar period with no better results. A third term of like imprisonment only resulted in yet another encasement. I was by this time so heartily sick of my perverse favourites that I abandoned her majesty to her fate, and

I introduced their own queen, which was gladly welcomed. The following morning in passing round the garden, and still preserving a kindly remembrance of my poor young queen, I thought I would like to look upon her remains. Nearing No. 5 I found a single dead bee on the landing board as I had expected, and a queen; but on turning her over on the palm of my hand she bore a striking resemblance to the old queen. In a trice the cover was off and the frames raised, and to my great joy the thrice-rejected was now the free and accepted reigning monarch of my Stewarton hive. She still survives, and her numerous progeny gleaned some of my finest supers the by-past season.—A RENFREWSHIRE BEE-KEEPER.

### ANOTHER YEAR'S EXPERIENCE.

In bee-keeping, as in other things, there is a connection between cause and effect—management and results. In every year's experience we find that the apiarian who attends to the details of management and plays his part well is most successful. Though bees require less attention and care than most other creatures useful to man, they do need some attention at certain times and seasons, and therefore should not be forgotten. Stories are told of bees living continuously in the cavities of trees and roofs of houses. That bees live occasionally in such places a few years without attention from the hand of man I can readily believe; but having long doubted that honey bees are natives (originally) of Great Britain, I have given but little credence to the stories alluded to. That the cavities of trees, &c., once occupied by defunct swarms are haunted by bees and attractive to fugitive swarms seeking homes or habitations we all know, and hence the likelihood of mistakes having been made as to unbroken successions of occupation of hollow trees and cavities by swarms. The fickleness of our climate and seasons make it necessary for the bee-keeper to care for and attend to the wants of his little favourites. Bees need protection from wet and cold in winter, and must have food in times of famine. Every year's experience goes to prove that bees out of doors cannot be too well covered during the winter and spring months. A certain amount of warmth is necessary for the comfort of bees. In the absence of this warmth they cleave and cluster very closely together and remain all but motionless. In cold weather they are helpless creatures, often perishing in clusters in the centres of their hives within 6 inches of their own honey. Though bees should be well covered in winter, they should not be stimulated and encouraged to breed then by artificial feeding. If bees have not power to feed themselves in cold weather how can they attend to their young? Winter feeding is attended with risk and danger, inasmuch as it tends to promote breeding; and if cold weather prevents the bees from giving proper attention to the brood in the cells it becomes foul. Besides, it is more natural for bees to rest during the months of November, December, and January. In the south of England they may be encouraged to breed in February, and north of Manchester March is soon enough in ordinary seasons. In wintering bees in greenhouses we find that they seldom leave their hives when the mercury of the thermometer is below 50°, and at 55° (temperate) they begin work on whatever flowers they can find.

In seasons early and favourable for honey-gathering I have generally found that the swarming system of management gave the best results in both honey and stock. By it more space is occupied, more bees bred, more honey gathered, and fewer swarms lost. In late unfavourable seasons those who repress swarming have generally the greatest success. Those who acted on the non-swarming principle this year reaped the largest harvests. In considering this question of bee-keeping, the aims of the bee-master, the pasturage ground, and the markets for honey have all to be remembered and compassed. In large apiaries it is well to follow both systems of management. Amateurs, too, who keep a few hives only, and want a supply of honey every year, will seldom be disappointed if they manage half of their hives on the non-swarming, and the other half on the swarming, principle.

During the months of September, October, and November of this year I created more stocks by sugar-feeding than on any former occasion. In this work I found that when the hives were well filled with bees comb-building went on rapidly, and that when only about half filled with bees comb-building went on more slowly; and towards the end of the season very little brood appeared in the centre combs of these syrup-fed stocks. What beautiful pure virgin combs were built! What a temptation to fill supers of comb thus for another year! If I were going for a swarm of supers every year I should utilize the bees of honey hives in autumn in filling as many supers with comb as I could by sugar syrup. Not, of course, to sell the syrup for honey—that would be fraudulent and dishonest, but simply for comb-building. From 20 lbs. or 5s. worth of sugar a good swarm will fill a super with comb, capable of holding at least 30 lbs. of honey. But how could the syrup be extracted without injury to the combs? This could be done by bees only, and experience

would discover the best way of letting the bees do it. In extracting the syrup from one super they could and would build combs in another, though not to the same extent. Thus the syrup would be used again and again in filling with combs additional supers. A word to the wise is enough. With plenty of supers, filled or nearly filled with pure white empty combs, a very great amount or weight of honeycomb could be obtained from an apiary in a favourable season. This theoretical suggestion will, I think, commend itself as practical to the bee-keepers of England. I am not aware that any important discovery in bee history or management has been made during 1876. The introduction or notice of "sectional supers" deserves honourable mention. They doubtless will be found very convenient for the retail sale of honeycomb. I commend them to the notice of all who keep bees for the production and sale of comb.

I regret that the season has passed without anybody in this country coming to the front to prove the superiority of one kind of bee over another. For four or five years I have done everything I could to induce the patrons and advocates of Italian bees to pit them against the common sort, and I am still willing to do what I can to bring the matter to the test of a fair and satisfactory trial. The fairest test I have ever seen reported took place in America this year. In that case the blacks beat the yellows, leaving them a considerable distance behind. I earnestly hope that arrangements will be made for a trial of strength next year in this country. The experiment is worth a little sacrifice, and if several gentlemen will come forward with their aid and advice a most interesting and profitable contest will be the result. I have never uttered a word against Italian bees, neither have I ever seen a shadow of proof of their superiority. Having the greatest possible confidence in the working and breeding powers of the common English bees, their industry and hardiness, I can scarcely be expected to discard them in the absence of satisfactory proof that a better kind of bee exists.—A. PETTIGREW.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.					Rain.
1876.  Dec.	Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Inches.		deg.	deg.	S.	deg.	deg.	deg.	deg.	In.		
We. 20	28.787	43.2	42.8	S.	48.3	47.8	41.1	54.8	39.3	0.542	
Th. 21	28.861	40.8	39.0	S.W.	48.0	44.8	39.3	53.6	36.3	—	
Fri. 22	29.184	34.3	34.3	N.W.	39.3	40.4	32.5	56.3	28.4	—	
Sat. 23	29.349	33.7	33.0	N.N.E.	39.5	36.5	28.0	38.8	25.4	1.610	
Sun. 24	29.451	35.0	34.4	W.	37.4	35.4	32.4	41.2	31.8	0.138	
Mo. 25	29.728	34.8	34.4	N.E.	36.5	36.3	34.1	37.8	31.9	0.02	
Tu. 26	30.180	32.3	31.3	N.E.	37.4	35.0	30.9	41.4	31.2	0.317	
Means.		33.347	33.5		39.6	39.7	34.1	46.2	31.9	2.639	

### REMARKS.

20th.—Hazy early, raining forenoon, sun shining through the rain at 1 P.M.; rather heavy rain after; fair in the evening.  
 21st.—Very fine day throughout, and starlight night; wind rather cold.  
 22nd.—Slight frost; splendidly bright about 1 P.M.; very fine all day and night.  
 23rd.—Fair but dull early, dull all day; snow in evening, and very heavy snow and rain in the night and early morning.  
 24th.—Snow thick on the ground at 9 A.M.; very dark and slightly thawing all day; rain again at night.  
 25th.—Very dull, snow still on the ground and falling again for a short time about 10 A.M.; very damp and cold till the evening, when it became drier.  
 26th.—Fair but dull, though frosty, and the air very nipping from the north-east; rain and snow after 8.30 P.M.  
 Mean temperature generally about 5° lower than during the previous week. The special feature has, however, been the excessive fall of rain and snow.—G. J. SYMONS.

### COVENT GARDEN MARKET.—DECEMBER 27.

#### VEGETABLES.

		s. d.	s. d.			s. d.	s. d.
Artichokes.....	dozen	0	0 to 0	Leeks.....	bunch	0	4 to 0
Asparagus.....	dozen	0	0	Mushrooms.....	pottle	1	6 to 2
French.....	bunch	0	0	Mustard & Cress.....	punnet	0	2 to 4
Beans, Kidney.....	dozen	1	0 to 1	Onions.....	bushel	0	0 to 0
Broccoli.....	dozen	1	6 to 3	Pickling.....	quart	0	4 to 0
Brussels Sprouts.....	dozen	3	0 to 4	Parsley.....	doz. bunches	2	0 to 0
Cabbage.....	dozen	1	0 to 2	Parsnips.....	dozen	0	0 to 0
Carrots.....	bunch	4	0 to 8	Peas.....	quart	0	0 to 0
Cauliflower.....	dozen	3	0 to 6	Potatoes.....	bushel	2	6 to 4
Celery.....	dozen	1	6 to 2	Radishes.....	doz.	3	0 to 5
Colewort.....	doz. bunches	2	0 to 4	Radishes.....	doz. bunches	1	0 to 1
Cucumbers.....	each	1	0 to 2	Rhubarb.....	bundle	9	0 to 1
Endive.....	dozen	1	0 to 2	Salsafy.....	bundle	9	0 to 1
Fennel.....	bunch	3	0 to 0	Scorzonera.....	bundle	1	0 to 0
Garlic.....	lb.	6	0 to 0	Seakale.....	basket	1	6 to 8
Herbs.....	bunch	3	0 to 0	Shallots.....	lb.	6	0 to 2
Horseradish.....	bundle	4	0 to 0	Spinach.....	bushel	0	3 to 6
Lettuce.....	dozen	1	0 to 2	Tomatoes.....	doz. bunches	1	6 to 2
				Turnips.....	bunch	0	4 to 0
				Vegetable Marrows.....	dozen	0	0 to 0











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